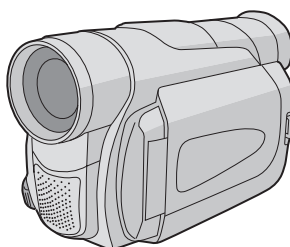


JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-D30UB, GR-D30Us, GR-D31Us, GR-D70Us, GR-D90UB, GR-D90Us, GR-D91Us



Mini DV NTSC
DSC
DIGITAL
STILL CAMERA

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).

SPECIFICATION *(The specifications shown pertain specifically to the model GR-D30US, GR-D70US, GR-D90US)*

Camcorder			
General		Cassette	48 kHz 2-channel (16-bit)
Power supply	: DC 11.0 V $\equiv$ (Using AC Adapter) DC 7.2 V $\equiv$ (Using battery pack)	Tape speed	: Mini DV cassette : SP : 18.8 mm/s : LP : 12.5 mm/s
Power consumption		Maximum recording time	: SP : 80 min. : LP : 120 min.
LCD monitor off,		Digital Still Camera Function	
viewfinder on	: Approx. 3.4 W	Storage media	: SD Memory Card/MultiMediaCard
LCD monitor on,		Compression system	: JPEG (compatible)
viewfinder off	: Approx. 4.7 W	File size	: 2 modes (1024 x 768 pixels, 640 x 480 pixels)
Dimensions		Picture quality	: 2 modes (FINE/STANDARD)
(W x H x D)	: 76 mm x 94 mm x 143 mm (3" x 3-3/4" x 5-11/16") (GR-D90) 69 mm x 94 mm x 143 mm (2-3/4" x 3-3/4" x 5-11/16") (GR-D70/D30) (with the LCD monitor closed and the viewfinder pushed back in)	Approximate number of	
		storable images	: pg. 18.
Weight	: Approx. 550 g (1.3 lbs) (GR-D90) Approx. 525 g (1.2 lbs) (GR-D70/D30)	Connectors	
Operating temperature	: 0°C to 40°C (32°F to 104°F)	S-Video	
Operating humidity	: 35% to 80%	Output	: Y : 1 V (p-p), 75 Ω , analog C : 0.29 V (p-p), 75 Ω , analog
Storage temperature	: -20°C to 50°C (-4°F to 122°F)	Input*	: Y : 0.8 V (p-p) -1.2 V (p-p), 75 Ω , analog C : 0.2 V (p-p) -0.4 V (p-p), 75 Ω , analog
Pickup	: 1/6" CCD	AV	
Lens	: F 1.6, f = 2.7 mm to 43.2 mm, 16:1 power zoom lens	Video output	: 1 V (p-p), 75 Ω , analog
Filter diameter	: $\varnothing$ 37 mm	Video input*	: 0.8 V (p-p) -1.2 V (p-p), 75 Ω , analog
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system (GR-D90) 2.5" diagonally measured, LCD panel/TFT active matrix system (GR-D70/D30)	Audio output	: 300 mV (rms), 1 k Ω , analog, stereo
Viewfinder	: Electronic viewfinder with 0.24" black/white LCD	Audio input*	: 300 mV (rms), 50 k Ω , analog, stereo
Speaker	: Monaural	DV	
Digital Video Camera		Output	: 4-pin, IEEE 1394 compliant
Format	: DV format (SD mode)	Input	: 4-pin, IEEE 1394 compliant
Signal format	: NTSC standard	USB*	: 5-pin
Recording/Playback format	: Video: Digital component recording : Audio: PCM digital recording, 32 kHz 4-channel (12-bit),	* GR-D90/D70 only	
		AC Adapter	
		Power requirement	
		U.S.A and Canada	: AC 120 V $\sim$, 60 Hz
		Other countries	: AC 110 V to 240 V $\sim$, 50 Hz/60 Hz
		Output	: DC 11 V $\equiv$, 1 A

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

GR-D30UB, GR-D30US, GR-D31US, GR-D70US, GR-D90UB, GR-D90US, GR-D91US M3D123, M3D143, M3D127, M3D147

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MODEL NUMBER	GR-D30UB	GR-D30US	GR-D31US	GR-D70US	GR-D90UB	GR-D90US	GR-D91US
LCD MONITOR	2.5 INCH	2.5 INCH	3.5 INCH	2.5 INCH	3.5 INCH	3.5 INCH	3.5 INCH
REMOTE CONTROL UNIT	NO	NO	NO	RM-V718U	NO	RM-V718U	RM-V717U
BATTERY (for REMOTE CONTROL UNIT)	NO	NO	NO	CR2025	NO	CR2025	AAA x2
DIGITAL INTERFACE	NO	NO	NO	USB	USB	USB	USB
ANALOG INPUT	NO	NO	NO	YES	YES	YES	YES
DSC FLASH MEMORY(MEMORY CARD)	NO	NO	NO	YES (CARD Slot only)	YES (MMC 8MB)	YES (MMC 8MB)	YES (MMC 8MB)
EDITING CABLE	NO	NO	NO	NO	NO	NO	YES
USB CAULE	NO	NO	NO	NO	YES	YES	YES
MEMORY CARD	NO	NO	NO	NO	YES (MMC 8MB)	YES (MMC 8MB)	YES (MMC 8MB)
CD-ROM	NO	NO	NO	YES	YES	YES	YES
EDITING CABLE	NO	NO	NO	NO	NO	NO	YES
USB	NO	NO	NO	YES	YES	YES	YES

SECTION 1 PRECAUTIONS

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

- (1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

- (2) Parts identified by the $\triangle$ symbol and shaded () parts are critical for safety.

Replace only with specified part numbers.

NOTE :

Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

- (3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.
- (4) Use specified internal wiring. Note especially:
 - Wires covered with PVC tubing
 - Double insulated wires
 - High voltage leads
- (5) Use specified insulating materials for hazardous live parts.
Note especially:
 - Insulation Tape
 - PVC tubing
 - Spacers
 - Insulation sheets for transistors
 - Barrier
- (6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

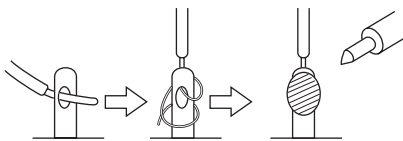


Fig.1-1-1

- (7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- (8) Check that replaced wires do not contact sharp edged or pointed parts.
- (9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

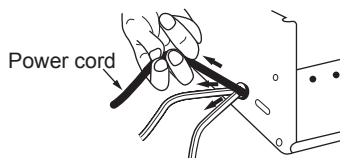


Fig.1-1-2

- (10) Also check areas surrounding repaired locations.
- (11) Products using cathode ray tubes (CRTs) In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Conse-

quently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

- (12) Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

- **Connector part number** : E03830-001

- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.

- **Replacement procedure**

- a) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).

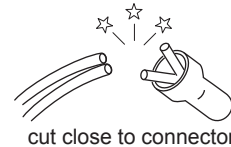


Fig.1-1-3

- b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

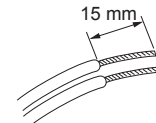


Fig.1-1-4

- c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

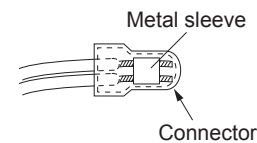


Fig.1-1-5

- d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

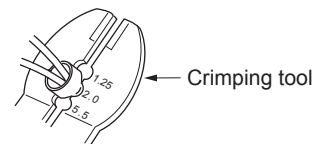


Fig.1-1-6

- e) Check the four points noted in Fig.1-1-7.

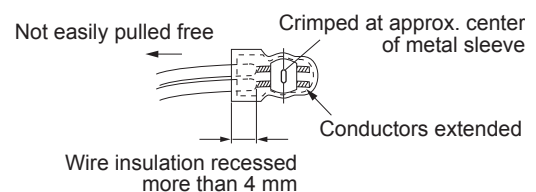


Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

See table 1 below.

(2) Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

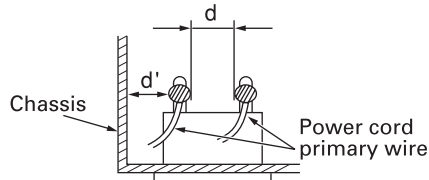


Fig.1-1-8

(4) Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

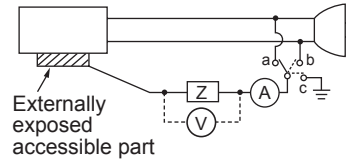


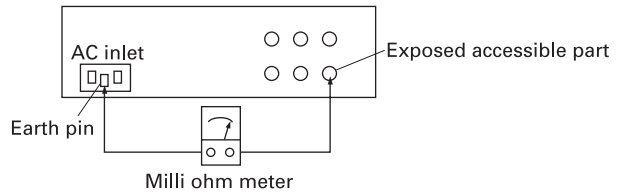
Fig.1-1-9

(5) Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm}$ (Power cord) $d' \geq 6 \text{ mm}$ (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Fig.1-1-12

NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

2.1 BEFORE ASSEMBLY AND DISASSEMBLY

2.1.1 Precautions

1. Be sure to disconnect the power supply unit prior to mounting and soldering of parts.
2. Prior to removing a component part that needs to disconnect its connector(s) and its screw(s), first disconnect the wire(s) from the connector(s), and then remove the screw(s).
3. When connecting/disconnecting wires, pay enough attention not to damage the connectors.
4. Be careful in removing or handling the part to which some spacer or shield is attached for reinforcement or insulation.
5. When replacing chip parts (especially IC parts), first remove the solder completely to prevent peeling of the pattern.
6. Tighten screws properly during the procedures. Unless specified otherwise, tighten screws at a torque of 0.088N•m (0.9kgf•cm).

2.1.2 Assembly and disassembly

[Example]

STEP No.	PART	Fig. No.	POINT	NOTE
[1]	TOP COVER ASSEMBLY	Fig.C1	S1,2(L1)	-
[2]	UPPER ASSEMBLY (Inc. VF ASSEMBLY, SPEAKER/MONITOR)	Fig.C2-1	S2a,2(S2b),3(S2c) 2(S2d),S2e,S2c L2,CN2a,b	-
[8]	VF ASSEMBLY	Fig.C2-2	2(S8),L8,CN8a	NOTE 8a NOTE 8b
(1)	(2)	(3)	(4)	(5)

(1) Order of steps in Procedure

When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part to be removed or installed.

(3) Fig. No. showing Procedure or Part Location.

C = CABINET

D = CAMERA AND BOARD ASSEMBLY

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring

W = Washer

S = Screw

* = Unhook, unlock, release, unplug or unsolder.

2(S3) = 2 Screws (S3)

CN = Connector

(5) Adjustment information for installation.

2.1.3 Destination of connectors

Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⇔ : Flat wire

↔ : Wire

[Example]

CONN. No.	CONNECTOR				Pin No.
CN2a	MAIN	CN101	⇔	MONIBW CN761	40
CN2b	MAIN	CN103	⇔	MINIBW CN762	10

Remove the parts marked in .

2.1.4 Disconnection of connectors (Wires)

Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.

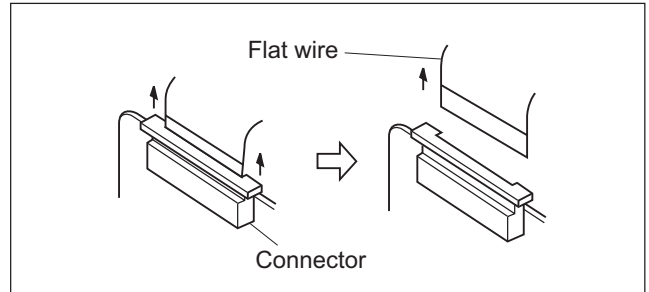


Fig.2-1-1

Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.

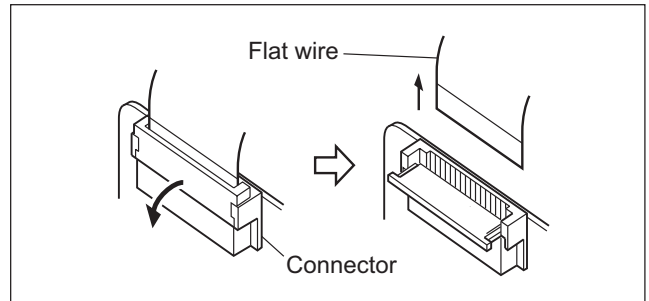


Fig.2-1-2

2.1.5 Tools required for disassembly and assembly

1	Torque driver YTU94088	2	Bit YTU94088-003
3	Tweezers P-895	4	Chip IC replacement jig PTS40844-2
5	Cleaning cloth KSMM-01		

Fig.2-1-3

1.Torque driver

Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

2.Bit

This bit is slightly longer than those set in conventional torque drivers.

3.Tweezers

To be used for removing and installing parts and wires.

4.Chip IC replacement jig

To be used for replacement of IC.

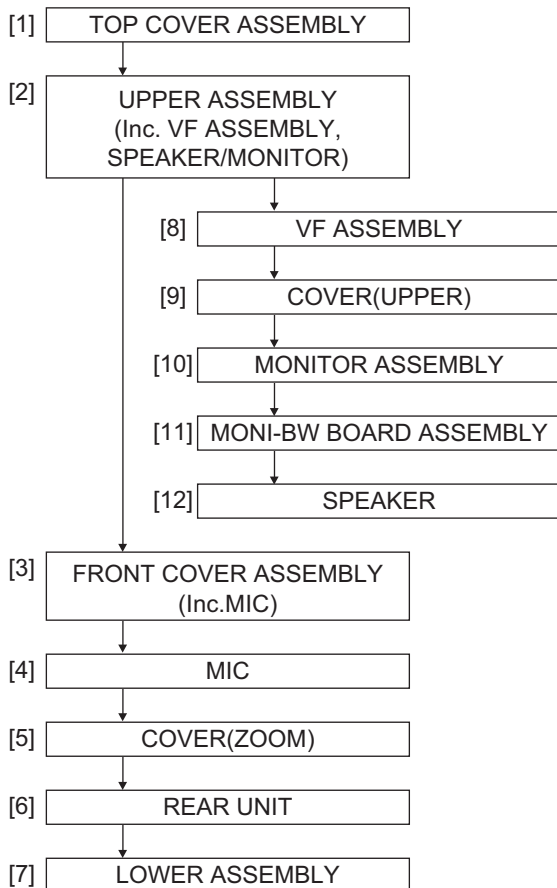
5.Cleaning cloth

Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

2.2 ASSEMBLY AND DISASSEMBLY OF CABINET PARTS

2.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order.



2.2.2 Disassembly method

STEP No.	PART	Fig. No.	POINT	NOTE
[1]	TOP COVER ASSEMBLY	Fig.C1	S1,2(L1)	-
[2]	UPPER ASSEMBLY (Inc. VF ASSEMBLY, SPEAKER/MONITOR)	Fig.C2-1	S2a,2(S2b),3(S2c) 2(S2d),S2e,S2c L2,CN2a,b	-
[8]	VF ASSEMBLY	Fig.C2-2	2(S8),L8,CN8a	NOTE 8a NOTE 8b
[9]	COVER(UPPER)	Fig.C2-3	2(S9),L9	-
[10]	MONITOR ASSEMBLY		2(S10a),CN10a,2(S10b),L10	NOTE 10a NOTE 10b
[11]	MONI-BW BOARD ASSEMBLY	Fig.C2-4	2(S11a),2(S11b),4(S11c)	NOTE 11a
[12]	SPEAKER		BKT(HINGE),KNOB(SLIDE)	NOTE 11b NOTE 11c
[3]	FRONT COVER ASSEMBLY (Inc.MIC)	Fig.C3	COVER(JACK),S3,L3a,L3b CN4	NOTE 3
[4]	MIC		S4	
[5]	COVER(ZOOM)	Fig.C4	S5a,3(S5b),2(L5)	-
[6]	REAR UNIT		CN6,S6	
[7]	LOWER ASSEMBLY		CN7a,b,S7a,3(S7b)	

CONN. No.	CONNECTOR					Pin No.
CN2a	MAIN	CN101	↔	MONI-BW	CN761	40
CN2b	MAIN	CN103	↔	MONI-BW	CN762	10
CN8a	MONI-BW	CN763	↔	VF ASSEMBLY	-	20
CN10a	MONI-BW	CN765	↔	BL-2.5/3.5	-	32
CN4	MAIN	CN106	↔	MIC	-	5
CN6	MAIN	CN104	↔	REAR UNIT	-	11
CN7a	MAIN	CN102	↔	JACK	CN501	22
CN7b	MAIN	CN109	↔	ZOOM UNIT	-	16

Remove the parts marked in .

NOTE 8a:

Take care not to cut the FPC wire when and after removing the VF ASSEMBLY.

NOTE 8b:

As for disassembly/assembly of [8]VF ASSEMBLY, see 2.4 ASSEMBLY AND DISASSEMBLY OF [8] VF ASSEMBLY.

NOTE 10a:

Take care not to cut the FPC when and after removing the MONITOR ASSEMBLY.

NOTE 10b:

As for disassembly/assembly of [10] MONITOR ASSEMBLY, see 2.5 ASSEMBLY AND DISASSEMBLY OF [10] MONITOR ASSEMBLY.

NOTE 11a:

Before removing the MONI-BW BOARD ASSEMBLY, check whether MEMORY CARD is inserted or not. If MEMORY CARD is inserted, pull out the MEMORY CARD before removing the MONI-BW BOARD ASSEMBLY.

NOTE 11b:

Since the SPEAKER is soldered to the MONI-BW BOARD ASSEMBLY, the SPEAKER should not be separated from the MONI-BW BOARD ASSEMBLY except when replacing the SPEAKER.

NOTE 11c:

Take care not to lose the KNOB(SLIDE). When attaching the KNOB(SLIDE), attach the KNOB(SLIDE) in a proper position.

NOTE 3:

After removing the FRONT COVER ASSEMBLY, OP BLOCK ASSEMBLY is not covered with anything. Take care not to damage the OP BLOCK ASSEMBLY when and after removing the FRONT COVER ASSEMBLY.

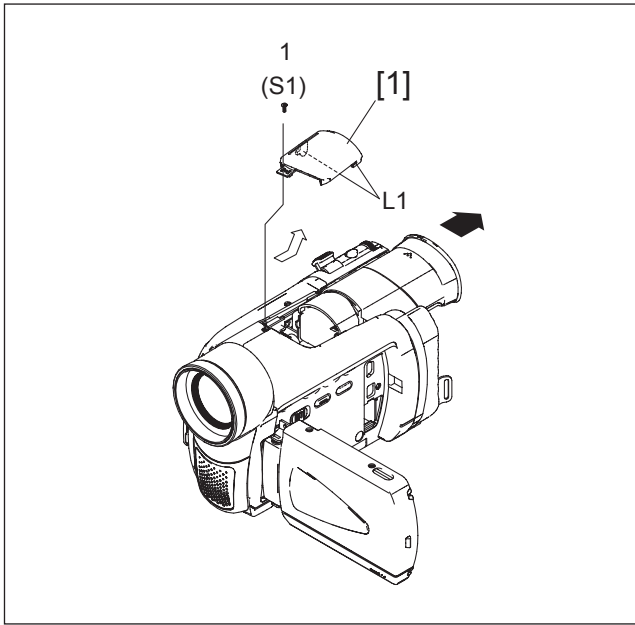


Fig.C1

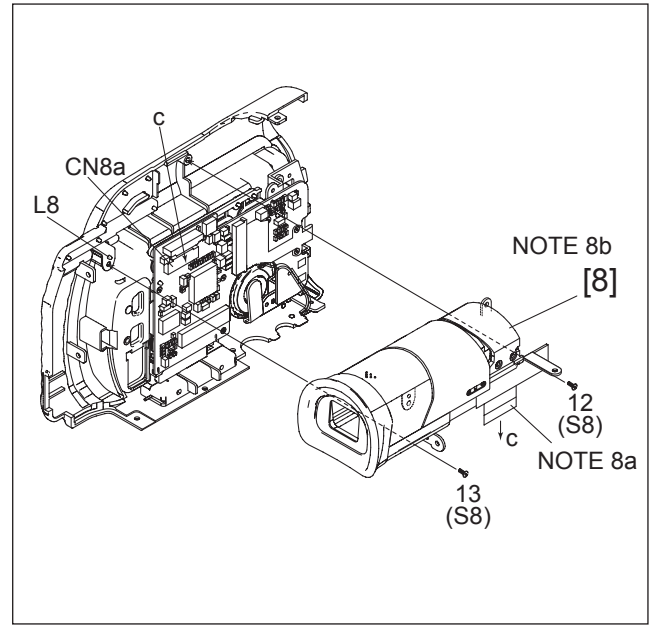


Fig.C2-2

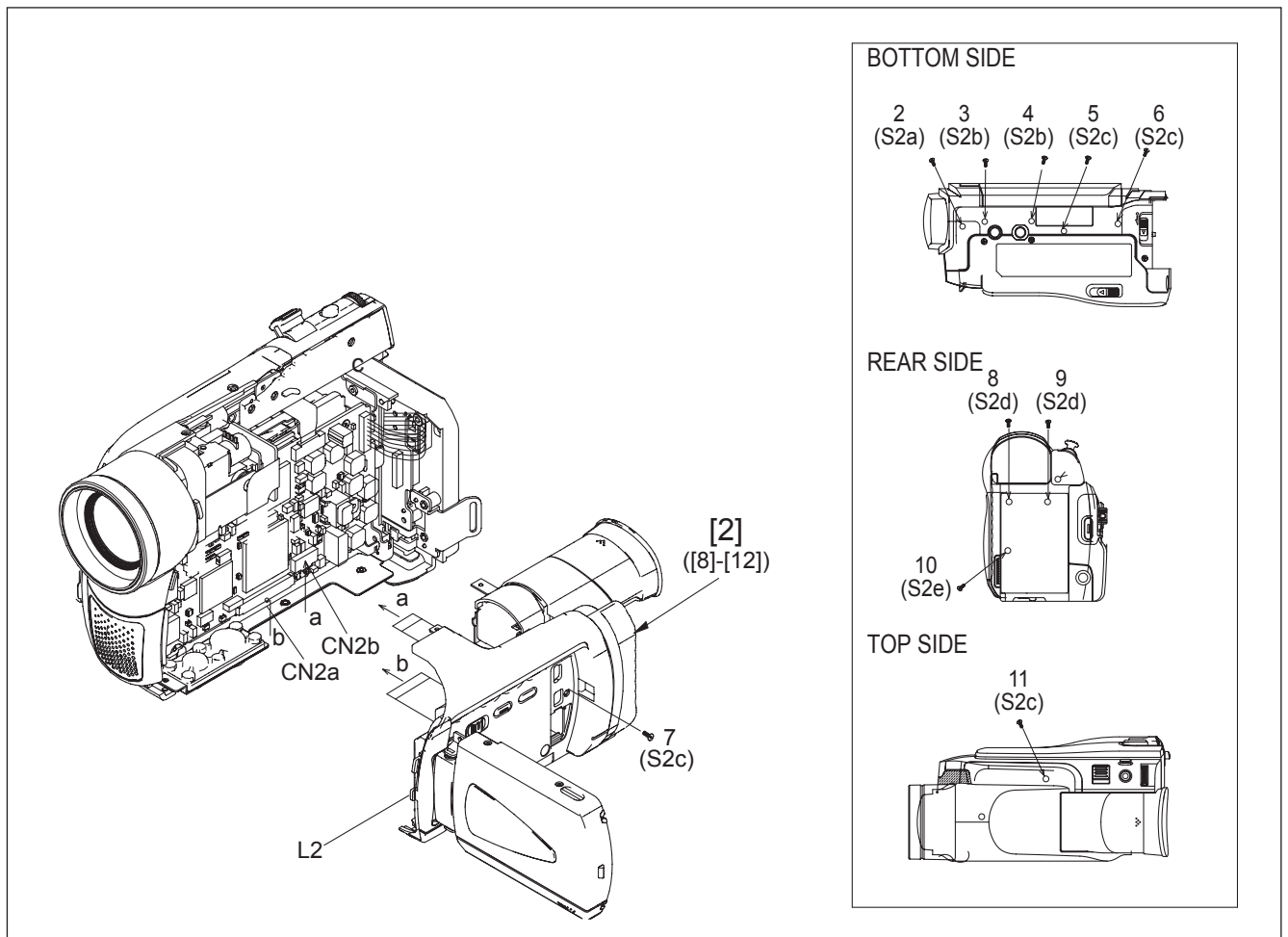


Fig.C2-1

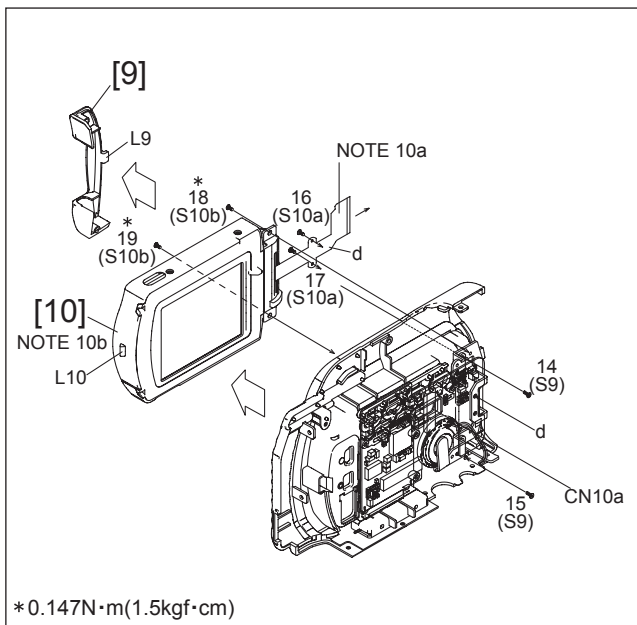


Fig.C2-3

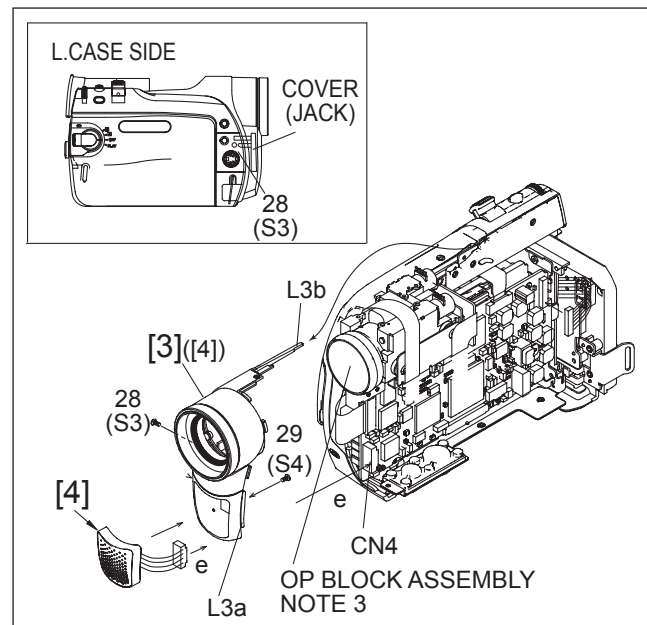


Fig.C3

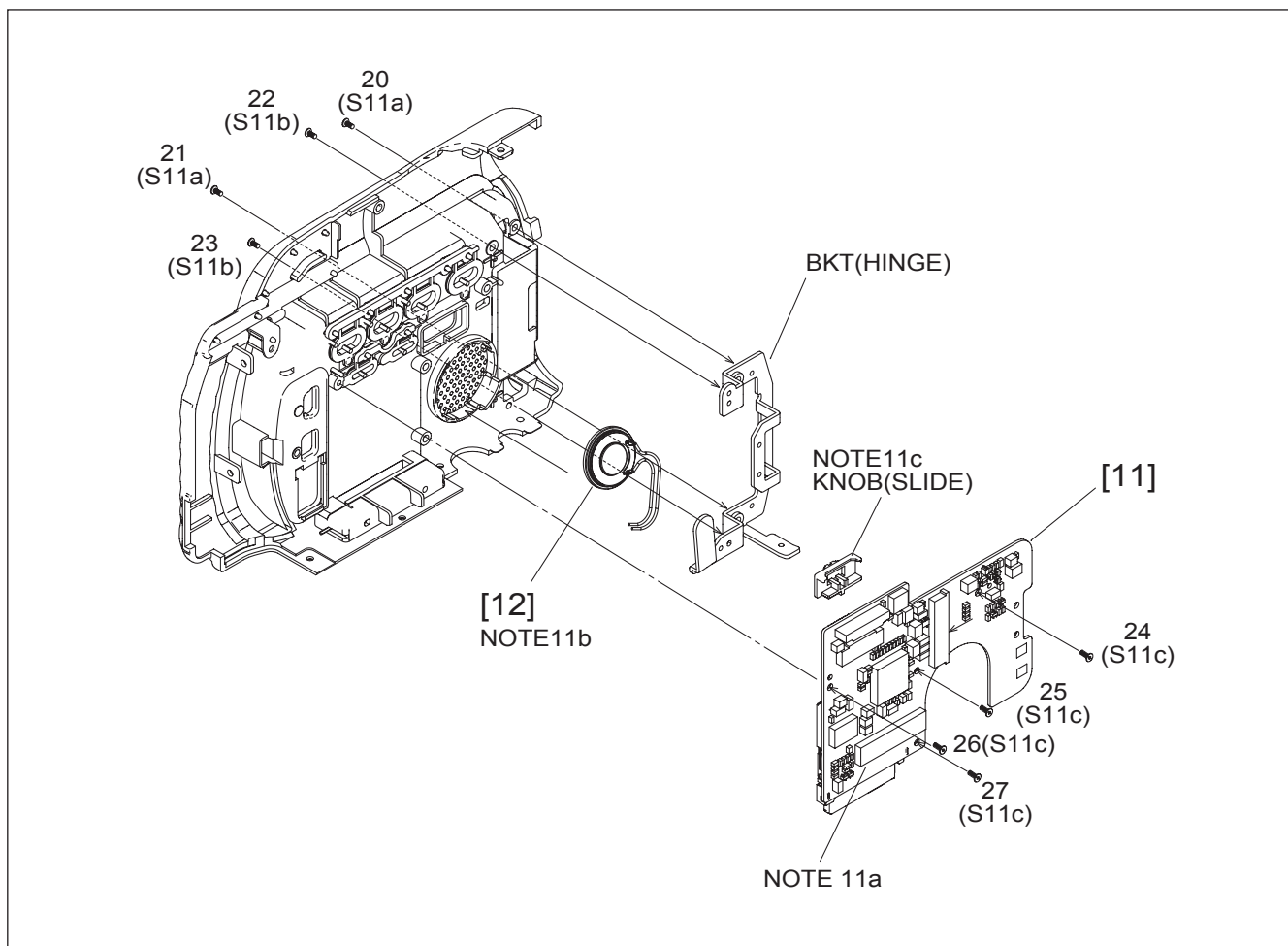


Fig.C2-4

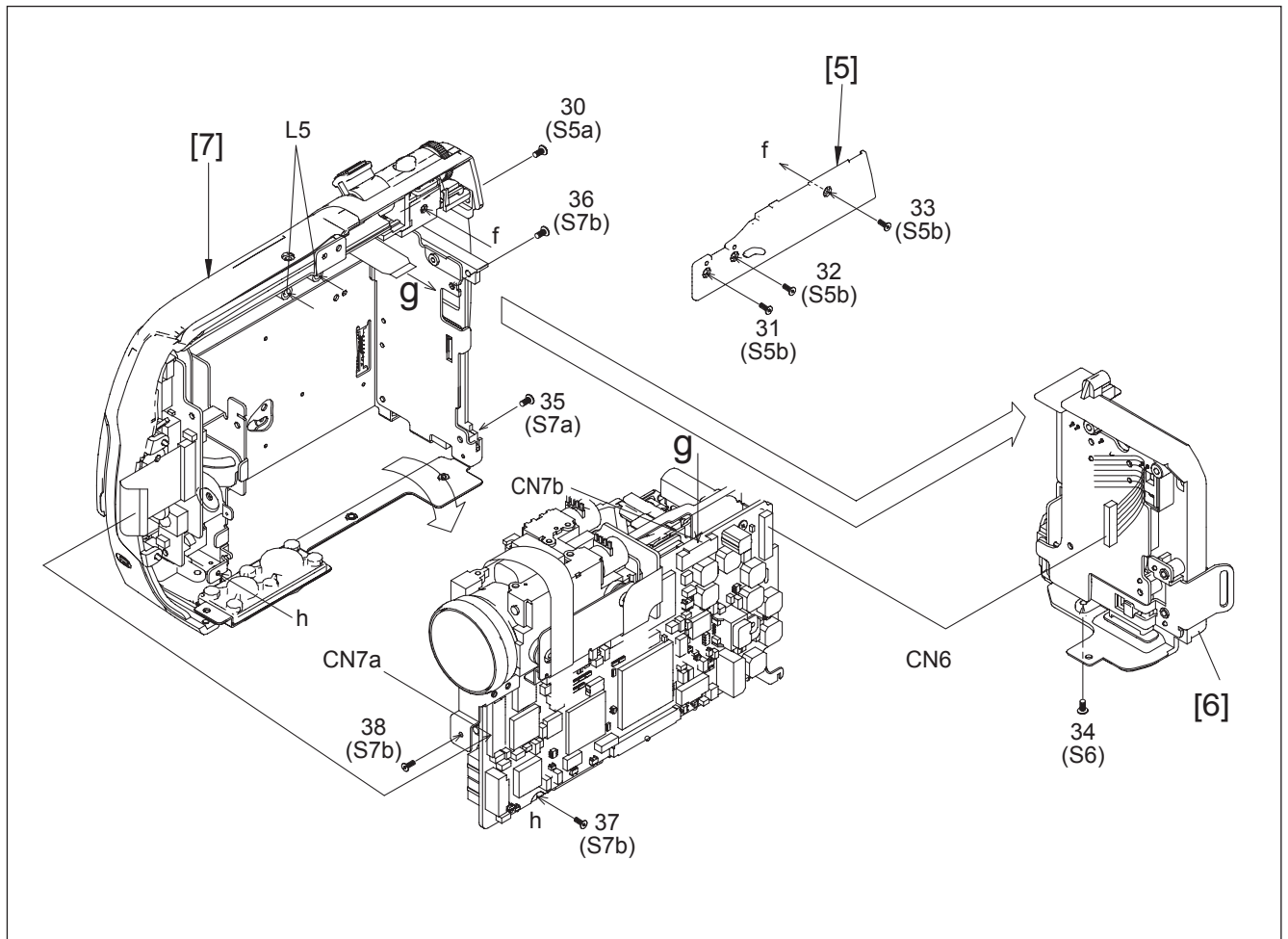


Fig.C4

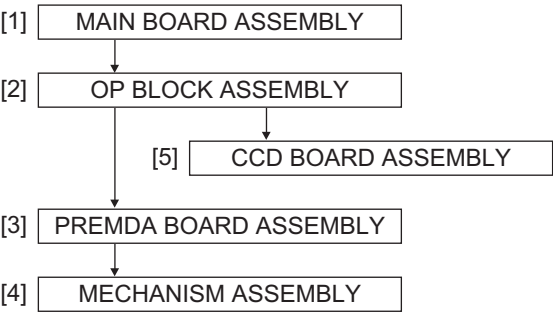
2.3 ASSEMBLY AND DISASSEMBLY OF CAMERA SECTION AND BOARD ASSEMBLY

2.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order.

NOTE:

Please see Service Manual No. 86700 (MECHANISM ASSY).



2.3.2 Disassembly method

STEP No.	PART	Fig. No.	POINT	NOTE
[1]	MAIN BOARD ASSEMBLY	Fig.D1	CN1a,b,2(S1),CN1c,d	-
[2]/[5]	OP BLOCK ASSEMBLY / CCD BOARD ASSEMBLY	Fig.D2	S2,L2	NOTE 2
[3]	PREMDA BOARD ASSEMBLY	Fig.D3	2(S3a),L3,SHIELD COVER(PR) CN3a,b,c,d,e,f,2(S3b) 3(S3c),BKT(MECHA)	-

CONN. No.	CONNECTOR				Pin No.
CN1a	MAIN	CN108	⇔	OP BLOCK ASSEMBLY CN501	24
CN1b	MAIN	CN107	⇔	CCD CN5001	20
CN1c	MAIN	CN111	⇔	PREMDA CN408	40
CN1d	MAIN	CN110	⇔	PREMDA CN401	40
CN3a	PREMDA	CN406	⇔	SENSOR -	16
CN3b	PREMDA	CN405	⇔	CAPSTAN MOTOR -	18
CN3c	PREMDA	CN404	⇔	DRUM MOTOR -	11
CN3d	PREMDA	CN402	⇔	HEAD -	8
CN3e	PREMDA	CN403	⇔	LOADING MOTOR -	6
CN3f	PREMDA	CN407	⇔	ROTARY ENCODER -	6

Remove the parts marked in .

NOTE 2:

As for disassembly/assembly of [2] OP BLOCK ASSEMBLY, see 2.6 ASSEMBLY AND DISASSEMBLY OF [2] OP BLOCK ASSEMBLY.

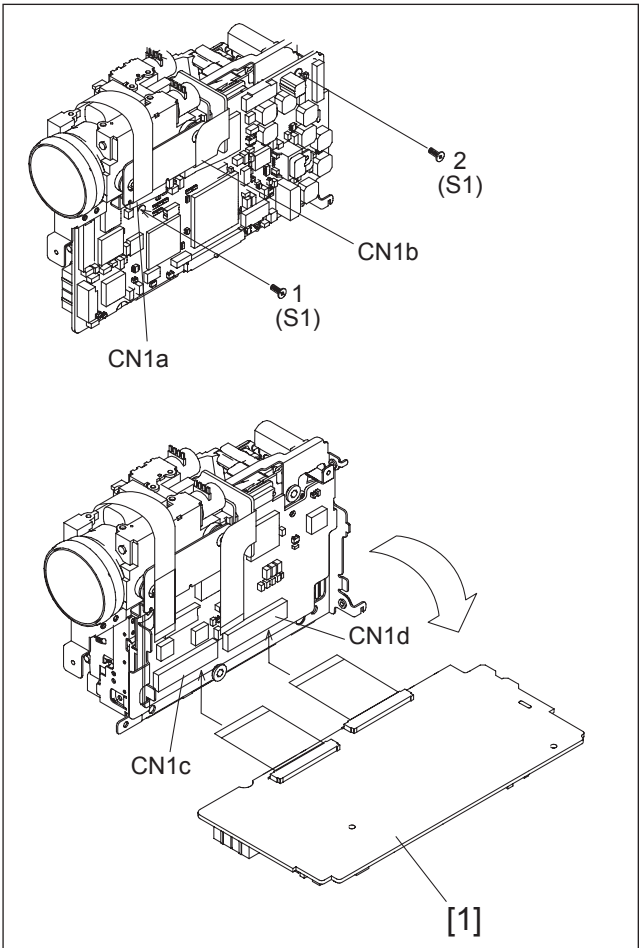


Fig.D1

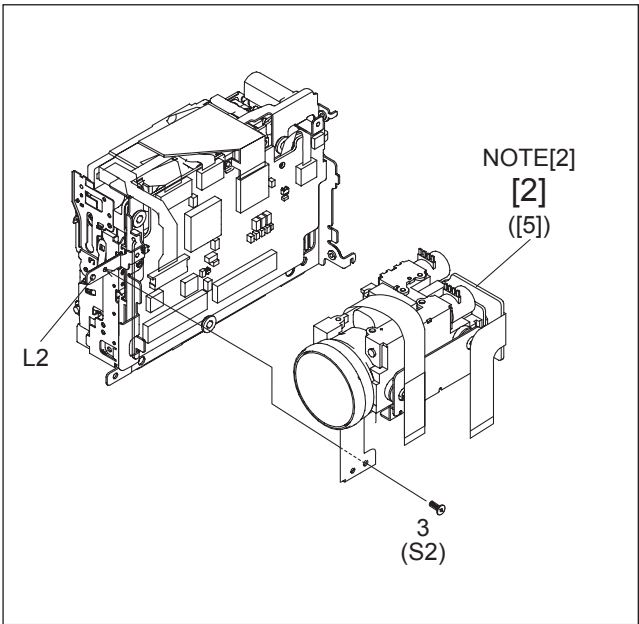


Fig.D2

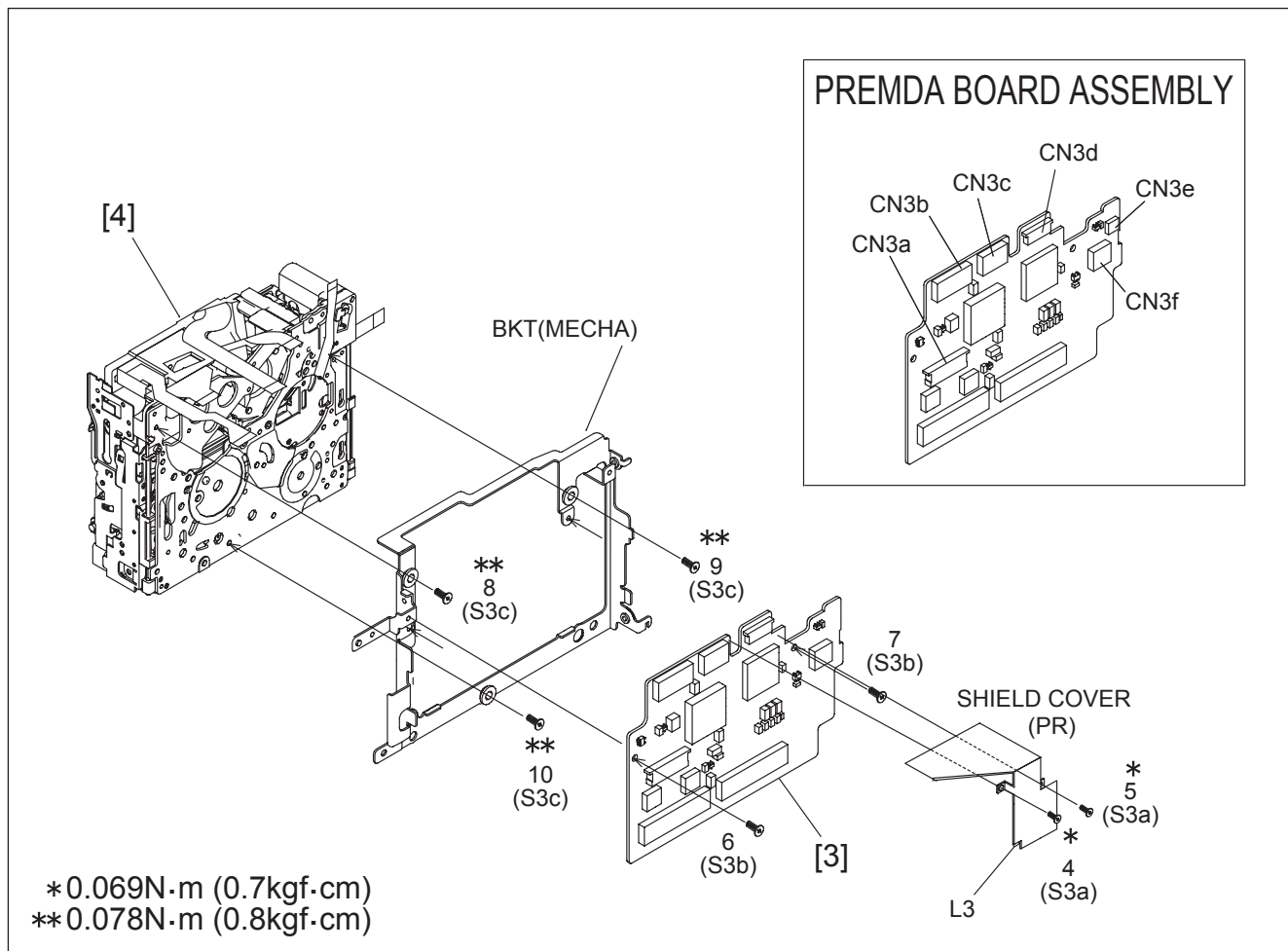


Fig.D3

2.4 ASSEMBLY AND DISASSEMBLY OF [8]VF ASSEMBLY

2.4.1 Disassembly of VF ASSEMBLY

- (1) Remove the EYE CUP.
- (2) Remove the four screws (1 to 4) and then remove the COVER (VF).
- (3) Remove the two screws (5 and 6) and then remove the FPC BOARD from the hook attaching the FPC BOARD.

NOTE 8a:

During the procedure, be careful not to damage the FPC. When attaching the SW BOARD ASSEMBLY, attach the SW BOARD ASSEMBLY so that the SW BOARD ASSEMBLY comes upwards.

- (4) Remove the four screws (7 to 10), and then pull out and remove the FPC from the VF HINGE ASSEMBLY.

NOTE 8b:

During the procedure, be careful not to damage the FPC and the SWITCH.

- (5) Remove the five screws (11 to 15).
- (6) Remove the UPPER CASE(VF) R.
- (7) Remove the UPPER CASE(VF) F and then pull out the LENS SA and the LCD UNIT ASSEMBLY with the FPC.

NOTE 8c:

In attaching the LCD UNIT ASSEMBLY, put the projections of the LCD UNIT ASSEMBLY in the slots of the BOTTOM CASE(VF). Put the STOPPER of the FPC inside the BOTTOM CASE(VF). In attaching the UPPER CASE(VF) F and the UPPER CASE(VF) R, attach the UPPER CASE(VF) F first and then the UPPER CASE(VF) R and be careful to keep the FPC inside the BOTTOM CASE(VF).

2.4.2 Disassembly of the LENS SA

- (1) Remove the LEVER(LENS).
- (2) Remove the SHEET(LENS).
- (3) Remove the LENS ASSEMBLY from the GUIDE LENS(VF).

NOTE 8d:

Be careful not to lose the SPRING(LENS).

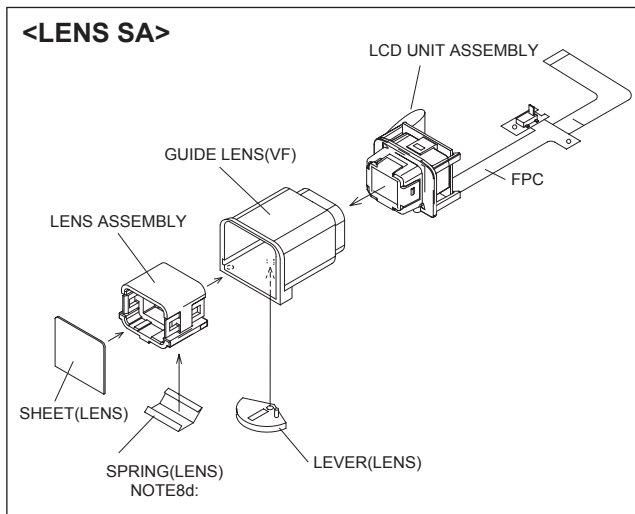


Fig.2-4-2

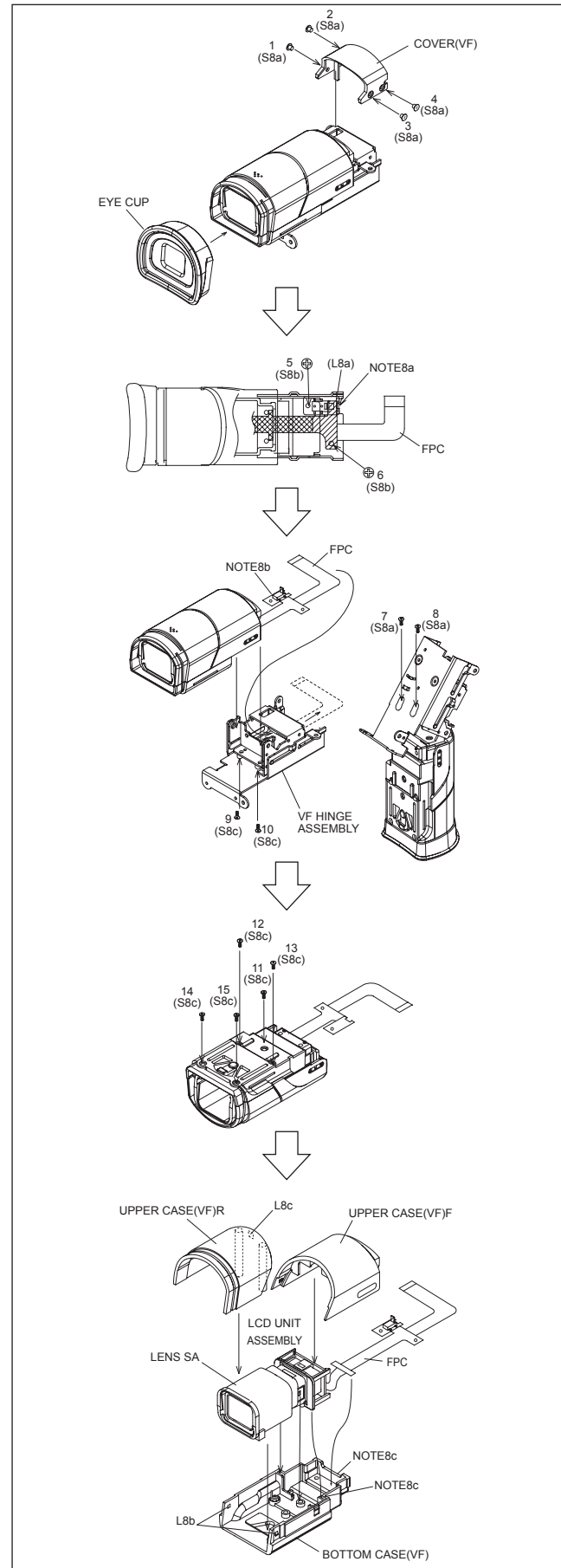


Fig.2-4-1

2.5 ASSEMBLY AND DISASSEMBLY OF [10]MONITOR ASSEMBLY (CABINET PARTS)

2.5.1 Disassembly of MONITOR ASSEMBLY (2.5 INCH)

NOTE:

Be careful in removing or handling the monitor assembly, especially not to soil or scratch the monitor screen during the disassembly procedure.

- (1) While removing the four screws (1 to 4) in numerical order and then disengaging the four hooks (L10a-L10d) in alphabetical order, open and remove the MONITOR COVER ASSEMBLY.
- (2) Remove the SENSOR BOARD ASSEMBLY from the MONITOR CASE.
- (3) Disconnect the FPC in the connectors CN10a and CN10b in this order, and then remove the MONI.HINGE ASSEMBLY.
- (4) Disconnect the FPC of the LCD MODULE from the connector CN10c.
- (5) Remove one screw (5) and then remove the BL BOARD ASSEMBLY together with the BACK LIGHT ASSEMBLY.

NOTE 10a:

It depends on the inch size of the monitor assembly whether the backlight is supplied as an assembly or as separated parts.

In replacing the backlight assembly, see the Parts List.

NOTE 10b:

Since the BACK LIGHT ASSEMBLY is soldered to the BL BOARD ASSEMBLY, the BACK LIGHT should not be separated from the BL BOARD ASSEMBLY except when replacing them.

- (6) Remove the DIFF.SHEET.
- (7) Remove the LCD FRAME together with the LCD MODULE.
- (8) Remove the SHIELD CASE.

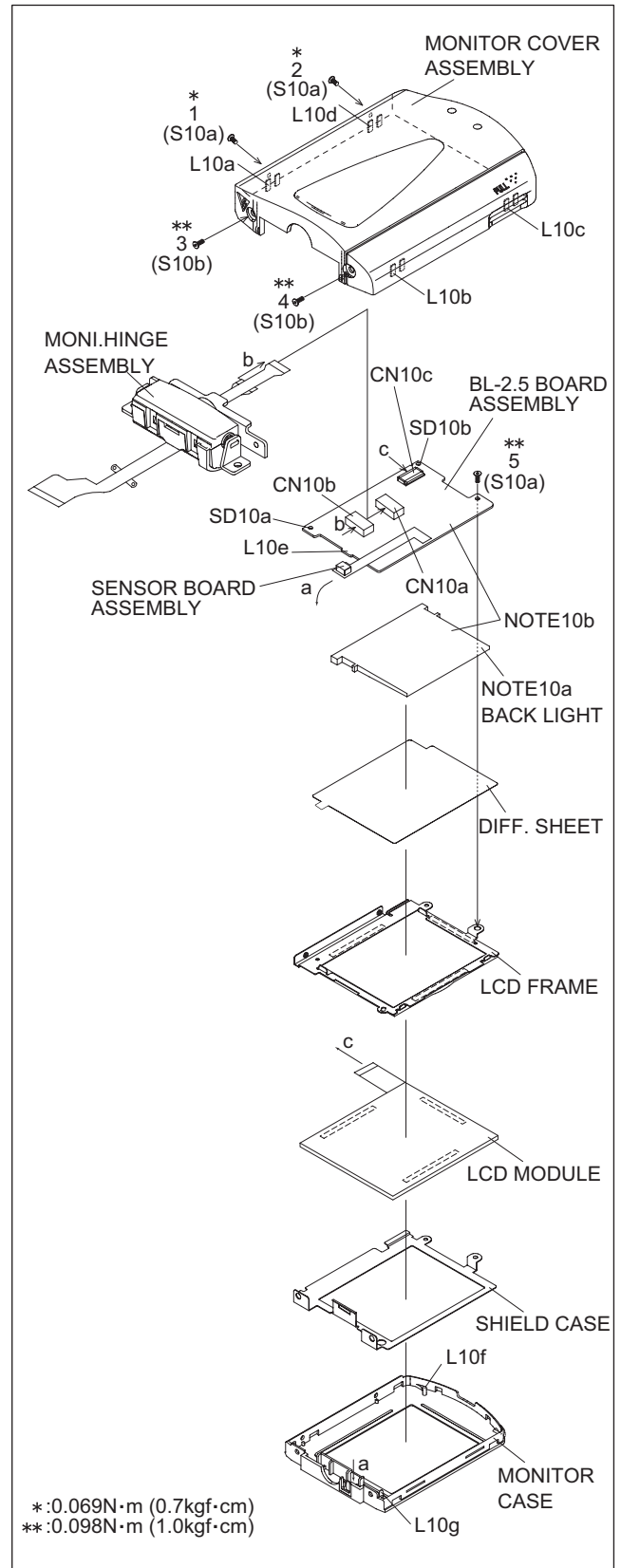


Fig.2-5-1

2.5.2 Disassembly of MONITOR ASSEMBLY (3.5 INCH)

NOTE:

Be careful in removing or handling the monitor assembly, especially not to soil or scratch the monitor screen during the disassembly procedure.

- (1) While removing the four screws (1 to 4) in numerical order and then disengaging the four hooks (L10a-L10d) in alphabetical order, open and remove the MONITOR COVER ASSEMBLY.
- (2) Remove the SENSOR BOARD ASSEMBLY from the MONITOR CASE.
- (3) Disconnect the FPC in the connectors CN10a and CN10b in this order, and then remove the MONI.HINGE ASSEMBLY.
- (4) Disconnect the FPC of the LCD MODULE from the connector CN10c.
- (5) Remove one screw (5) and then remove the BL BOARD ASSEMBLY together with the BACK LIGHT.

NOTE 10:

Since the BACK LIGHT is soldered to the BL BOARD ASSEMBLY, the BACK LIGHT should not be separated from the BL BOARD ASSEMBLY except when replacing them.

- (6) While removing the five hooks (L10e-L10i) in alphabetical order, remove the LCD FRAME together with the LCD MODULE.
- (7) Remove the SHIELD CASE.

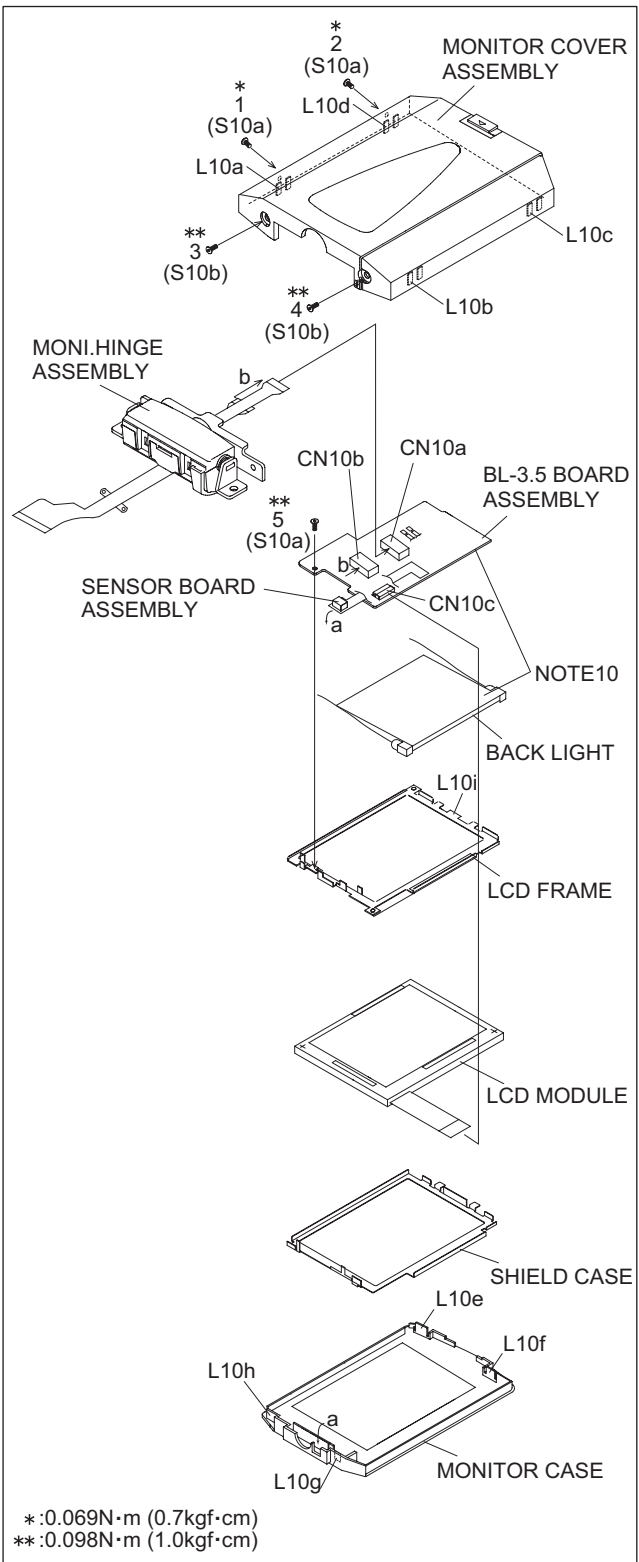


Fig.2-5-2

2.6 ASSEMBLY AND DISASSEMBLY OF [2]OP BLOCK ASSEMBLY / CCD BOARD ASSEMBLY (CAMERA SECTION AND BOARD ASSEMBLY)

2.6.1 Precautions

- (1) Take care in handling the CCD IMAGE SENSOR, OP LPF and lens components when performing maintenance etc., especially with regard to surface contamination, attached dust or scratching. If fingerprints are present on the surface they should be wiped away using either a silicon paper, clean chamois or the cleaning cloth.
- (2) The CCD IMAGE SENSOR may have been shipped with a protective sheet attached to the transmitting glass. When replacing the CCD IMAGE SENSOR, do not peel off this sheet from the new part until immediately before it is mounted in the OP BLOCK ASSEMBLY.
- (3) The orientation of the OP LPF is an important factor for installation. If there is some marking on the OP LPF, be sure to note it down before removing and to reassemble it very carefully as it was referring to the marking.

2.6.2 Disassembly of CCD BOARD ASSEMBLY and CCD BASE ASSEMBLY

- (1) Unsolder the CCD BOARD ASSEMBLY by the 14 points (SD2) and then remove it.
- (2) Remove the two screws (1, 2) and remove the CCD BASE ASSEMBLY.
- (3) Remove the SPACER.
- (4) Remove the SHEET.
- (5) Remove the OP LPF.

2.6.3 Assembly of CCD BASE ASSEMBLY and CCD BOARD ASSEMBLY

- (1) Set the OP LPF to the OP BLOCK ASSEMBLY so that the OP side touches the OP BLOCK ASSEMBLY.

NOTE 2a:

- Pay careful attention to the orientation of the OP LPF.
- (2) Set the SHEET to the OP LPF not to come off the right position.
- (3) Attach the SPACER to the OP BLOCK ASSEMBLY.
- (4) Fasten them together with the two screws (1, 2).
- (5) Set the CCD BOARD ASSEMBLY in the CCD BASE ASSEMBLY, and then solder it by the 14 points (SD2).

2.6.4 Replacement of service repair parts

The service repair parts for the OP BLOCK ASSEMBLY are as listed below.

Before replacement of these parts, remove the BRACKET (OP BLOCK ASSEMBLY) as required.

Take special care not to disconnect any of the FPC wires or cause any damage due to soldering (excessive heating).

- (1) FOCUS MOTOR
- (2) ZOOM MOTOR
- (3) IRIS MOTOR UNIT

NOTE 2b:

When replacing the FOCUS MOTOR or the ZOOM MOTOR, solder the FPC at a space of about 1 mm above the terminal pin.

NOTE 2c:

The IRIS MOTOR UNIT includes the FPC ASSEMBLY and two sensors.

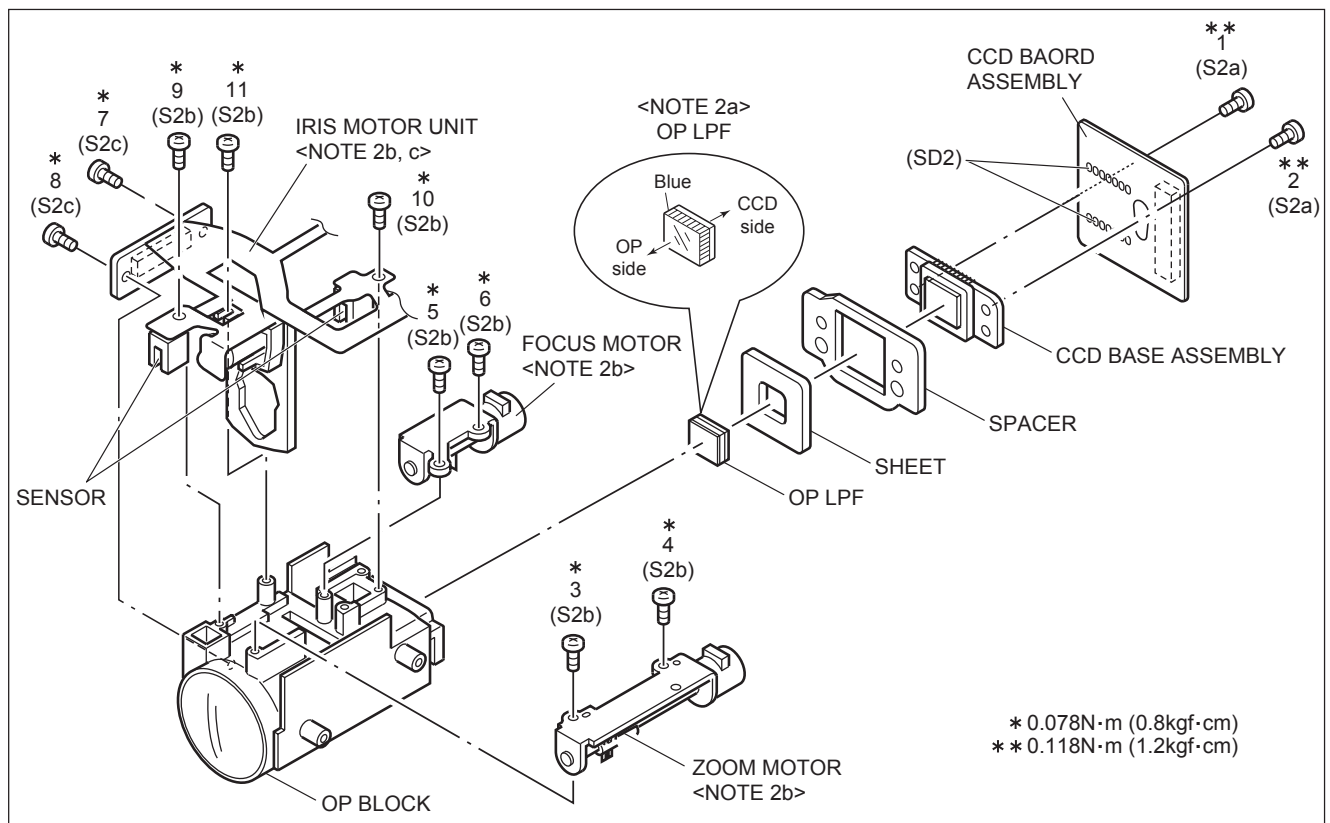


Fig.2-6-1

Use the following chart to manage screws

Use the following chart to manage screws

[1]	2	3	4	5	6	7	8	9	10	11	[8]	[9]	[10]	[11] ([12])													
1											12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
C1	C2-1										C2-2				C2-3		*		*								
Symbol No.																											
Removing order of screw																											
Place to stick screw																											
Reference drawing (Fig.No.)																											
Screw tightening torque																											
I															II												
I																											

[1]	2	3	4	5	6	7	8	9	10	11	[8]	[9]	[10]			[11] ([12])											
1											12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
C1	C2-1										C2-2		C2-3										C2-4				
Symbol No.																											
Removing order of screw																											
Place to stick screw																											
Reference drawing (Fig.No.)																											
Screw tightening torque															I												
															II												

Symbol No.	[3]	[4]	[5]	[6]	[7]						
Removing order of screw	28	29	30	31	32	33	34	35	36	37	38
Place to stick screw											
Reference drawing (Fig.No.)	C3						C4				
Screw tightening torque							I				

Symbol No.	[3]	[4]	[5]	[6]	[7]						
Removing order of screw	28	29	30	31	32	33	34	35	36	37	38
Place to stick screw											
Reference drawing (Fig.No.)	C3						C4				
Screw tightening torque							I				

Symbol No.	[1]	[2]	[3]	[4]	[5]	[6]	[7]			
Removing order of screw	1	2	3	4	5	6	7	8	9	10
Place to stick screw										
Reference drawing (Fig.No.)	D1	D2					D3			
Screw tightening torque	I			III		I				IV

Symbol No.	[8]														
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Place to stick screw					*		*								
Reference drawing (Fig.No.)	2-4-1														
Screw tightening torque	IV														

Symbol No.	[8]														
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Place to stick screw					*		*								
Reference drawing (Fig.No.)	2-4-1														
Screw tightening torque	IV														

Symbol No.	[2]/[5]										
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11
Place to stick screw											
Reference drawing (Fig.No.)	2-6-1										
Screw tightening torque	VI		IV								

Symbol No.	[2]/[5]										
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11
Place to stick screw											
Reference drawing (Fig.No.)	2-6-1										
Screw tightening torque	VI		IV								

Symbol No.	[10]				
Removing order of screw	1	2	3	4	5
Place to stick screw					
Reference drawing (Fig.No.)	2-5-1,2				
Screw tightening torque	III	V			

Symbol No.	[10]				
Removing order of screw	1	2	3	4	5
Place to stick screw					
Reference drawing (Fig.No.)	2-5-1,2				
Screw tightening torque	III	V			

*. : Don't reuse the screw, because screw lock bond was applied to them.

- Pay careful attention to tightening torque for each screw.

I : 0.088N·m (0.9kqf·cm) II :

IV : $0.078 \text{ N} \cdot \text{m}$ ($0.8 \text{ kgf} \cdot \text{cm}$)

II : $0.147\text{N}\cdot\text{m}$ ($1.5\text{kgf}\cdot\text{cm}$)

 $V : 0.098 \text{ N} \cdot \text{m} (1.0 \text{ kgf} \cdot \text{cm})$

III : 0.069N·m (0.7kgf·cm)

VI : $0.118\text{N}\cdot\text{m}$ ($1.2\text{kqf}\cdot\text{cm}$)

2.8 TAKE OUT CASSETTE TAPE

NOTE :

The following procedure describes a simplified method of ejecting the cassette tape in case it is not possible to eject it, due to an electrical failure.

Be careful not to damage any of the parts or the tape when performing repairs or maintenance work.

- (1) Remove the Power Unit (battery, DC code, etc.) from the set.
- (2) Open the CASSETTE COVER.
- (3) Attach a piece of PVC TAPE at the front of the CASSETTE HOUSING ASSEMBLY.

NOTE:

This helps prevent the tape from being damaged when the CASSETTE HOUSING ASSEMBLY is moved upward at the unloading end.

- (4) Apply DC 3V to the electrode on the top surface of the LOADING MOTOR ASSEMBLY to set the MECHANISM ASSEMBLY to the EJECT mode.
Unloading end is EJECT mode.
- (5) If there is any slack tape in the tape transport system, wind it inside the DVC CASSETTE TAPE by turning the REEL DISK ASSEMBLY (SUP) from the backside of the SLIDE DECK ASSEMBLY.
- (6) Peel off the PVC TAPE and take out the DVC CASSETTE TAPE from the CASSETTE HOUSING ASSEMBLY.

NOTE:

Make sure that grease or a similar substance is not attached to the surface of the tape.

Similarly, also make sure that grease or a similar substance is not attached on the MECHANISM ASSEMBLY.

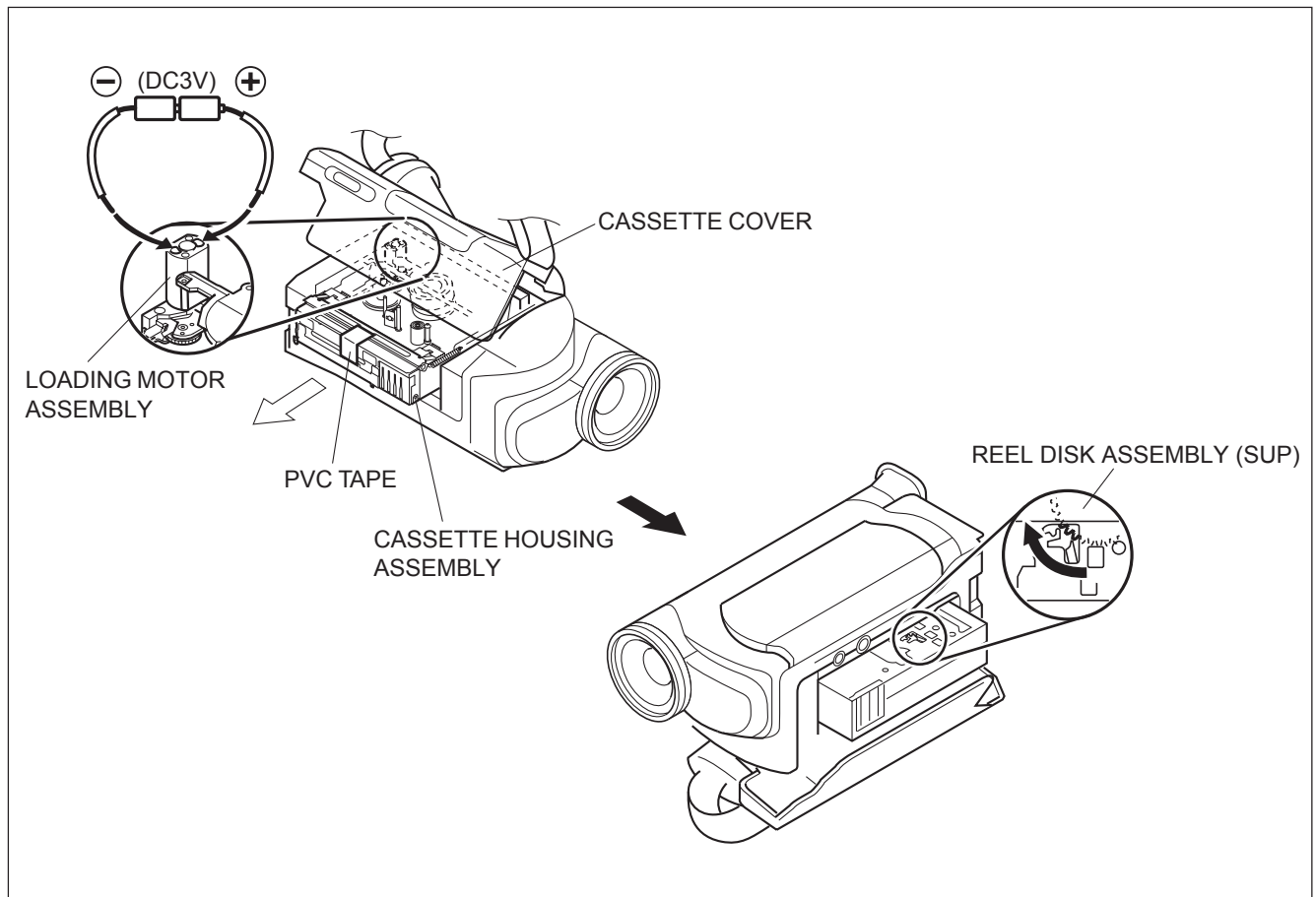


Fig.2-8-1

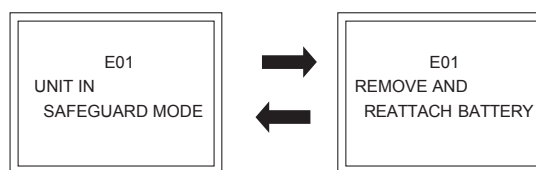
2.9 EMERGENCY DISPLAY

Whenever some abnormal signal is input to the syscon CPU, an error number (E01, as an example) is displayed on the LCD monitor or (in the electronic view finder).

In every error status, such the message as shown below alternately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number E01):



LCD display	Emergency mode	Details	Possible cause
E01	LOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the loading direction for 4 seconds or more. This error is defined as [E01].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift. 3. No power is supplied to the loading MDA.
E02	UNLOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the unloading direction for 4 seconds or more. This error is defined as [E02].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift.
E03	TU & SUP REEL FG	In the case no REEL FG is produced for 4 seconds or more in the capstan rotation mode after loading was complete, the mechanism mode is shifted to STOP with the pinch roller set off. This error is defined as [E03]. However, no REEL EMG is detected in the SLW/STILL mode.	1. The idler gear does not engage with the reel disk well. 2. Though the idler gear and reel disk are engaged with each other, the tape is not wound because of overload to the mechanism. 3. No FG pulse is output from the reel sensor. 4. No power is supplied to the reel sensor. 5. Tape transport operation takes place with a cassette having no tape inside. 6. The tape slackens and no pulse is produced until the slack is taken up and the tape comes into the normal status.
E04	DRUM FG	In the case there is no DRUM FG input in the drum rotation mode for 4 seconds or more. This error is defined as [E04], and the mechanism mode is shifted to STOP with the pinch roller set off.	1. The drum cannot be started or drum rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. 2) The tape is damaged or soiled with grease, etc. 2. The DRUM FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the DRUM FG pulse generator (hall element). 3. No drum control voltage is supplied to the MDA. 4. No power is supplied to the DRUM MDA.
E05	-	-	-
E06	CAPSTAN FG	In the case no CAPSTAN FG is produced in the capstan rotation mode for 2 seconds or more. This error is defined as [E06], and the mechanism mode is shifted to STOP with the pinch roller set off. However, no CAPSTAN EMG is detected in the STILL/FF/REW mode.	1. The CAPSTAN FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the CAPSTAN FG pulse generator (MR element). 2. No capstan control voltage is supplied to the MDA. 4. The capstan cannot be started or capstan rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. (Mechanical locking) 2) The tape is damaged or soiled with grease, etc. (Tape tangling occurs, etc.)

Fig.2-9-1

SECTION 3 ADJUSTMENT

3.1 PREPARATION

(1) Precaution

This model does not contain adjustment controls (VR). General deck system, camera system and monitor system adjustment are not required. However, if MAIN board need replacement, please use original EEP ROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required. 3.5.1 Electrical adjustment with personal computer is setup and it adjusts using a service support system. Please contact to JVC Service for detail information.

- OP BLOCK ASSEMBLY
- EEP ROM (IC1005 of MAIN board)
- MONITOR / VF ASSEMBLY

In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments must be done first, and then commence necessary repair, replacement and adjustment, etc.

- a) In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
- b) Since connectors are fragile, carefully handle them in disconnecting and connecting.
- c) Short circuit between operation unit and DECK chassis.

(2) Required test equipment

- a) Color TV monitor.
- b) AC power adapter
- c) Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
 - It is recommended to use one observable 300 MHz or higher frequency.
- d) Digital voltmeter
- e) Frequency counter (with threshold level adjuster)
- f) Personal computer

3.2 TOOLS REQUIRED FOR ADJUSTMENT

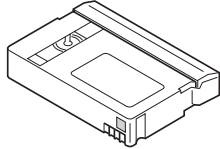
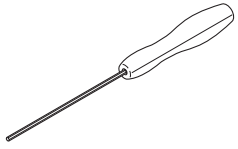
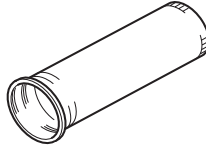
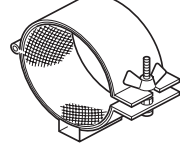
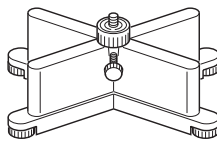
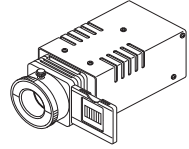
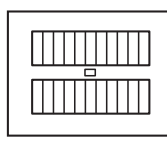
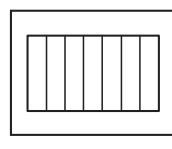
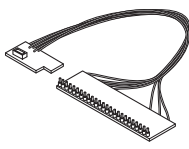
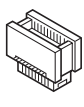
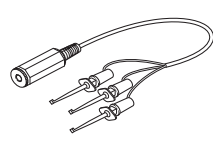
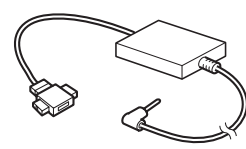
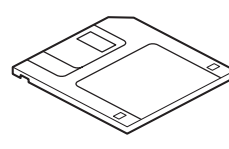
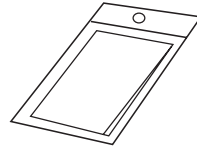
1	Alignment tape MC-1	2	Guide driver (Hexagonal) D-770-1.27
			
3	INF adjustment lens YTU92001B	4	INF lens holder YTU94087
			
5	Camera stand YTU93079	6	Light box assembly YTU93096A
			
7	Gray scale chart YTU94133A	8	Color bar chart YTU94133C
			
9	Jig connector cable YTU93106B	10	Extension connector YTU94145C-30
			
11	Communication cable YTU93107A	12	PC cable QAM0099-002
			
13	Service support system YTU94057-67	14	Cleaning cloth KSMM-01
			

Fig.3-2-1

1. Alignment tape

To be used for check and adjustment of interchangeability of the mechanism.

2. Guide driver (Hexagonal)

To be used to turn the guide roller to adjustment of the linearity of playback envelope.

3. INF adjustment lens

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

4. INF lens holder

To be used together with the Camera stand (6) for operating the Videocamera in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring. For the usage of the INF lens holder, refer to the Service Bulletin No. YA-SB-10035.

5. Camera stand

To be used together with the INF adjustment lens holder. For the usage of the Camera stand, refer to the Service Bulletin No. YA-SB-10035.

6. Light box assembly

To be used for adjustment of the camera system. For the usage of the Light box assembly, refer to the Service Bulletin No. YA-SB-10035.

7. Gray scale chart

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

8. Color bar chart

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

9. Jig connector cable

Connected to CN105 of the main board and used for electrical adjustment, etc.

NOTE:

Only some of the connectors in the JIG connector (YTU93106B) are soldered to wires.

It is desirable that you solder all the connectors to wires before using the JIG connector (YTU93106B), but you should solder only the connectors shown in the following JIG connector schematic diagram to wires because they are used in this model.

As for the details, see 3.3 JIG CONNECTOR CABLE.

10. Extension connector

Connect this extension connector to the connector of the jig connector cable for extending the cable connector.

NOTE:

removing the cover (for jig), use this extension connector triple for connecting the jig connector cable.

11. Communication Cable

Connect the Communication cable between the PC cable and Jig connector cable when performing a PC adjustment.

12. PC cable

To be used to connect the Videocamera and a personal computer with each other when a personal computer issued for adjustment.

13. Service support system

To be used for adjustment with a personal computer. Software can be downloaded also from JS-net.

14. Cleaning cloth

Recommended the Cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

3.3 JIG CONNECTOR CABLE

Nine wires have been soldered to the JIG CONNECTOR CABLE (YTU93106B).

Solder another nine wires to the JIG CONNECTOR CABLE (YTU93106B) to use in this set.

See the JIG CONNECTOR SCHEMATIC DIAGRAM and JIG CONNECTOR BOARD to solder the nine wires.

3.3.1 JIG CONNECTOR SCHEMATIC DIAGRAM

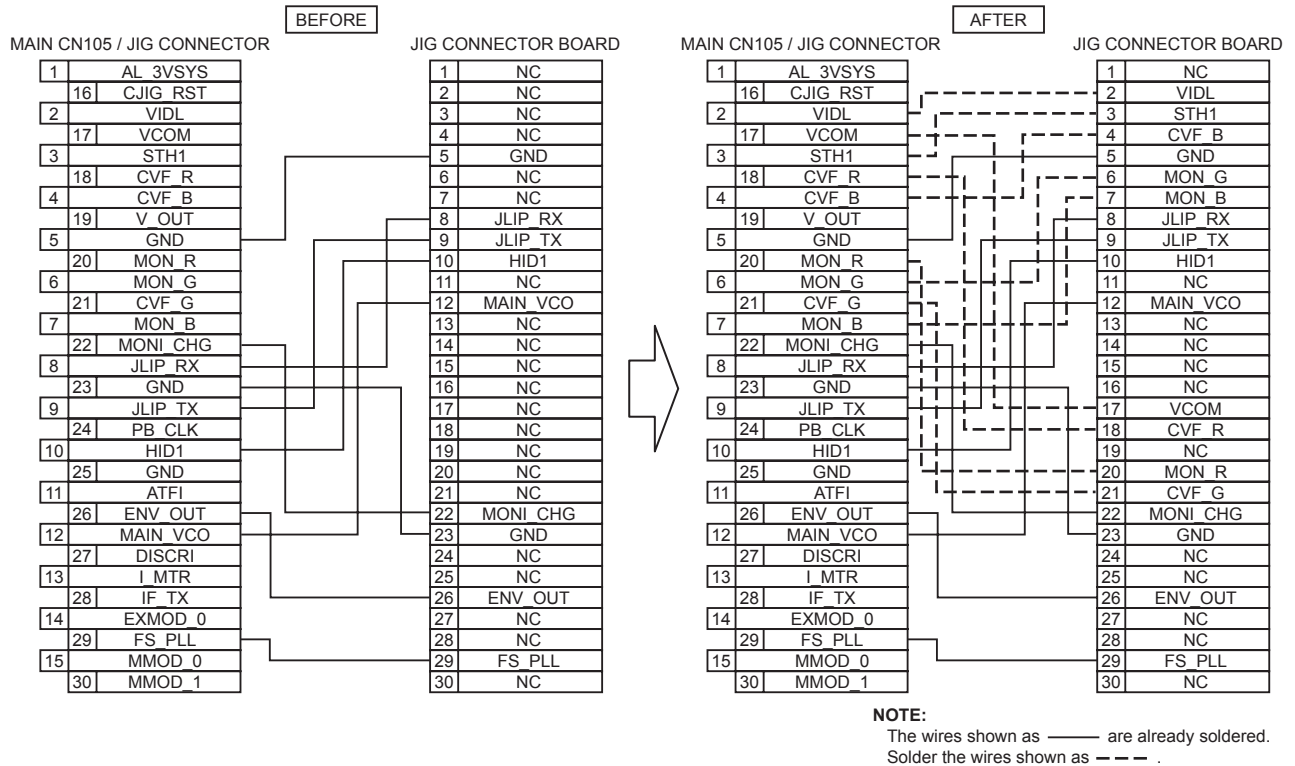


Fig.3-3-1

3.3.2 JIG CONNECTOR BOARD

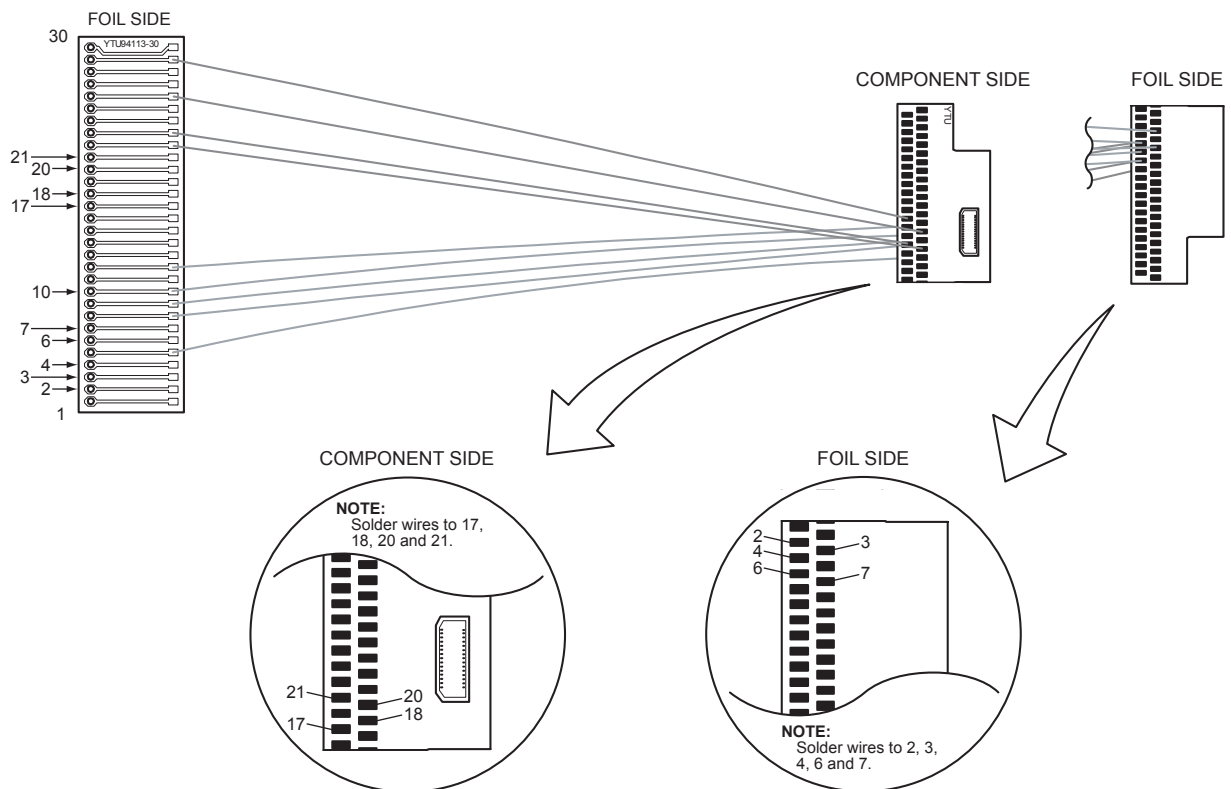


Fig.3-3-2

3.4 MECHANISM COMPATIBILITY ADJUSTMENT

3.4.1 Tape pattern check

- (1) Connect the JIG CONNECTOR CABLE to the set.
As for the connection procedure, JIG CONNECTOR BOARD and see 3.5 ELECTRICAL ADJUSTMENT.
- (2) Remove the COVER(ADJUST)
- (3) Play back the compatibility adjustment tape.
- (4) While triggering the HID1, observe the waveform of ENV_OUT.
- (5) Confirm that the waveform is free from remarkable level-down, and entirely parallel and straight.
- (6) In case any level-down is observed on the left hand side, straighten the level by turning the GUIDE ROLLER (SUP) of the POLE BASE ASSEMBLY.
In case any level-down is observed on the right hand side, however, straighten the level by turning the GUIDE ROLLER (TU) of the POLE BASE ASSEMBLY.
- (7) After adjustment, try the unloading motion once, and confirm that the waveform is flat (straight) when the tape has been played back again.
Moreover, perform readjustment as required.
- (8) When the recording has been played back again, play back the self-recording to confirm that the waveform is flat.

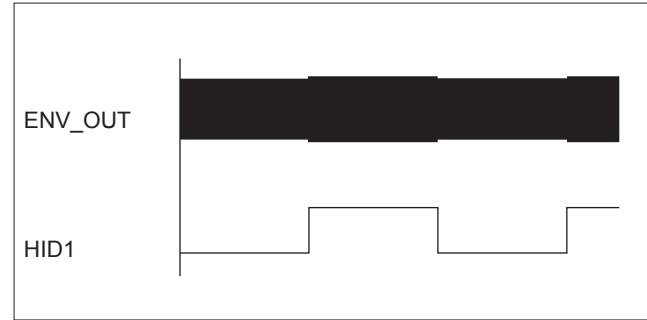


Fig.3-4-1

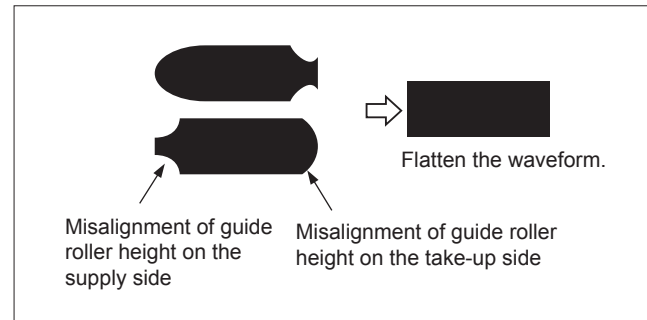


Fig.3-4-2

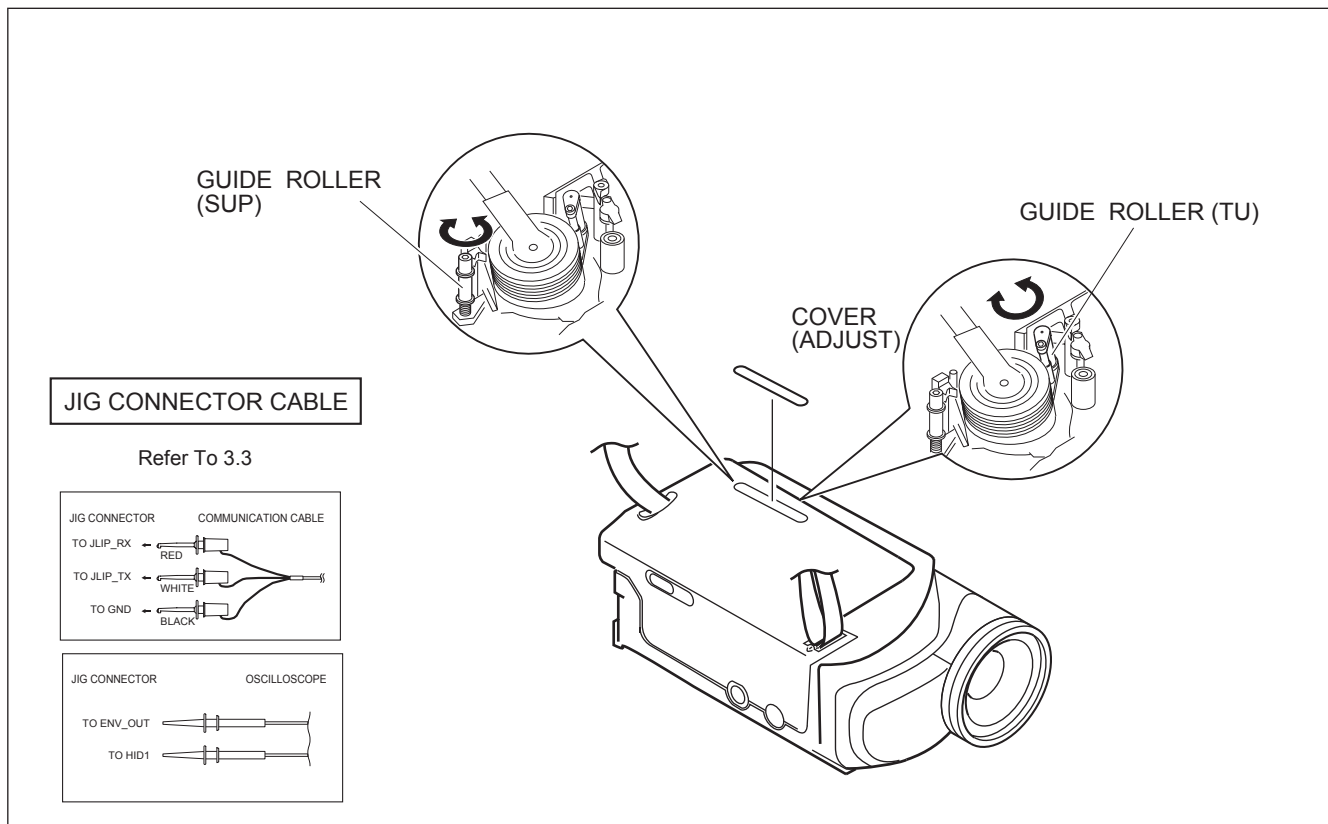


Fig.3-4-3

3.5 ELECTRICAL ADJUSTMENT

3.5.1 Electrical adjustment with personal computer

- Electrical adjustment is performed by using PERSONAL COMPUTER. As for the connection of cables, see Fig. 3-5-1. Read README.TXT file to use the software for SERVICE SUPPORT SYSTEM properly.
- Remove the COVER (JIG) to perform adjustment.

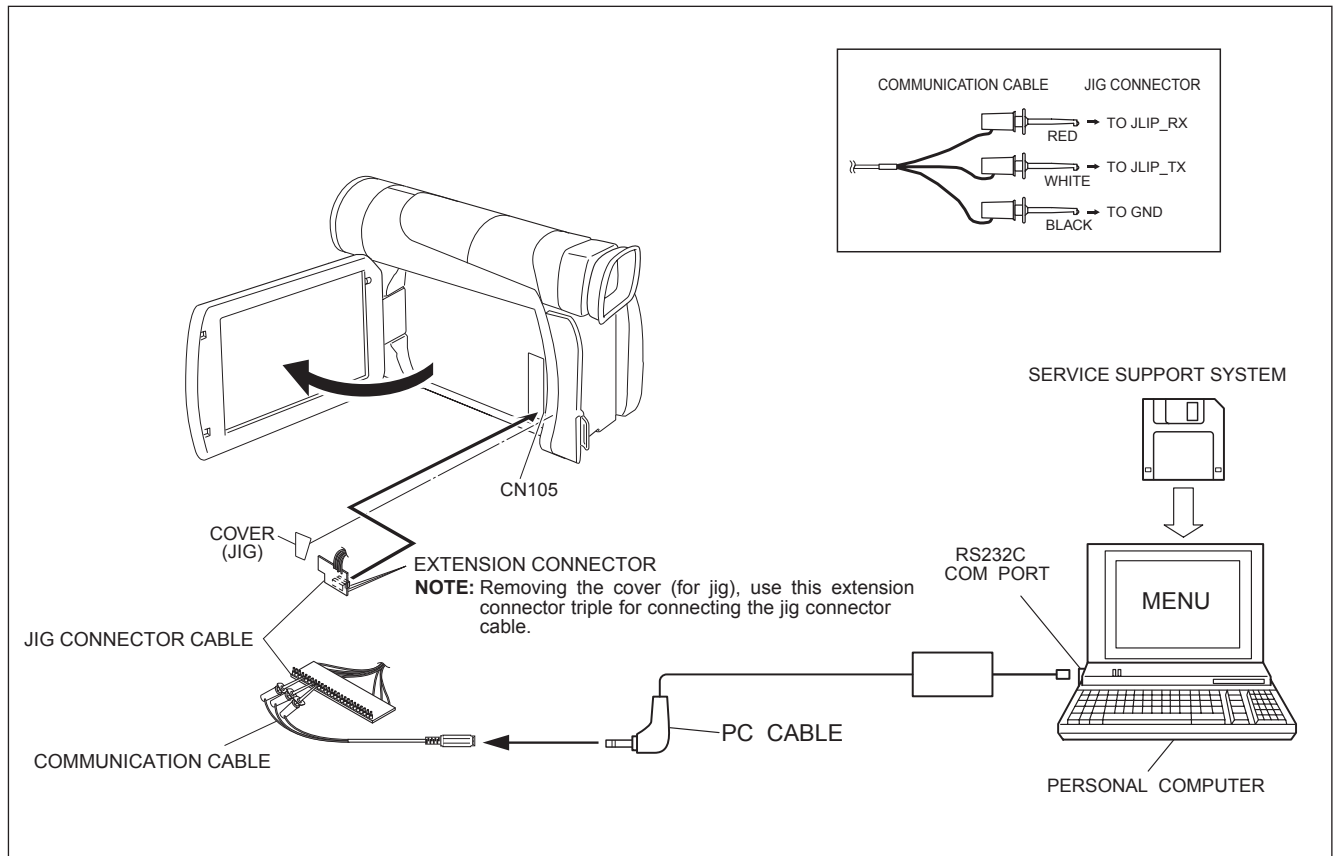


Fig.3-5-1

JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.

www.jvcservice.com(US Only)

JVC CANADA INC.

Head office : 21 Finchdene Square Scarborough, Ontario M1X 1A7

(416)293-1311

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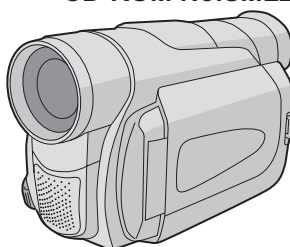
JVC

SCHEMATIC DIAGRAMS

DIGITAL VIDEO CAMERA

GR-D30UB, GR-D30Us, GR-D31Us, GR-D70Us, GR-D90UB, GR-D90Us, GR-D91Us

CD-ROM No.SML200304



Mini DV NTSC
DSC
DIGITAL
STILL CAMERA

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).

SPECIFICATION *(The specifications shown pertain specifically to the model GR-D30US, GR-D70US, GR-D90US)*

Camcorder			
General		Cassette	48 kHz 2-channel (16-bit)
Power supply	: DC 11.0 V $\equiv$ (Using AC Adapter) DC 7.2 V $\equiv$ (Using battery pack)	Tape speed	: Mini DV cassette : SP : 18.8 mm/s : LP : 12.5 mm/s
Power consumption		Maximum recording time	: SP : 80 min. : LP : 120 min.
LCD monitor off, viewfinder on	: Approx. 3.4 W	Digital Still Camera Function	
LCD monitor on, viewfinder off	: Approx. 4.7 W	Storage media	: SD Memory Card/MultiMediaCard
Dimensions		Compression system	: JPEG (compatible)
(W x H x D)	: 76 mm x 94 mm x 143 mm (3" x 3-3/4" x 5-11/16") (GR-D90) 69 mm x 94 mm x 143 mm (2-3/4" x 3-3/4" x 5-11/16") (GR-D70/D30) (with the LCD monitor closed and the viewfinder pushed back in)	File size	: 2 modes (1024 x 768 pixels, 640 x 480 pixels)
Weight	: Approx. 550 g (1.3 lbs) (GR-D90) Approx. 525 g (1.2 lbs) (GR-D70/D30)	Picture quality	: 2 modes (FINE/STANDARD)
Operating temperature	: 0°C to 40°C (32°F to 104°F)	Approximate number of storable images	: pg. 18.
Operating humidity	: 35% to 80%	Connectors	
Storage temperature	: -20°C to 50°C (-4°F to 122°F)	S-Video	
Pickup	: 1/6" CCD	Output	: Y : 1 V (p-p), 75 Ω , analog C : 0.29 V (p-p), 75 Ω , analog
Lens	: F 1.6, f = 2.7 mm to 43.2 mm, 16:1 power zoom lens	Input*	: Y : 0.8 V (p-p) -1.2 V (p-p), 75 Ω , analog C : 0.2 V (p-p) -0.4 V (p-p), 75 Ω , analog
Filter diameter	: $\varnothing$ 37 mm	AV	
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system (GR-D90) 2.5" diagonally measured, LCD panel/TFT active matrix system (GR-D70/D30)	Video output	: 1 V (p-p), 75 Ω , analog
Viewfinder	: Electronic viewfinder with 0.24" black/white LCD	Video input*	: 0.8 V (p-p) -1.2 V (p-p), 75 Ω , analog
Speaker	: Monaural	Audio output	: 300 mV (rms), 1 k Ω , analog, stereo
Digital Video Camera		Audio input*	: 300 mV (rms), 50 k Ω , analog, stereo
Format	: DV format (SD mode)	DV	
Signal format	: NTSC standard	Output	: 4-pin, IEEE 1394 compliant
Recording/Playback format	: Video: Digital component recording : Audio: PCM digital recording, 32 kHz 4-channel (12-bit),	Input	: 4-pin, IEEE 1394 compliant
		USB*	: 5-pin
		* GR-D90/D70 only	
		AC Adapter	
		Power requirement	
		U.S.A and Canada	: AC 120 V $\sim$, 60 Hz
		Other countries	: AC 110 V to 240 V $\sim$, 50 Hz/60 Hz
		Output	: DC 11 V $\equiv$, 1 A

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

GR-D30UB, GR-D30US, GR-D31US, GR-D70US, GR-D90UB, GR-D90US, GR-D91US M3D123, M3D143, M3D127, M3D147

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No.86722SCH
2003/04

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K Ω (1000 Ω), M: M Ω (1000K Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

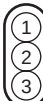
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

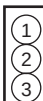
3. Interpreting Connector indications



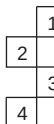
Removable connector



Wire soldered directly on board



Non-removable Board connector



Board to Board

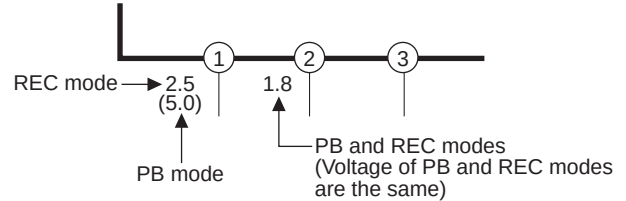


Connected pattern on board
The arrows indicate signal path

Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

-  Playback signal path
-  Playback and recording signal path
-  Recording signal path (including E-E signal path)
-  Capstan servo path
-  Drum servo path

(Example)

-  R-Y Playback R-Y signal path
-  Y Recording Y signal path

6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



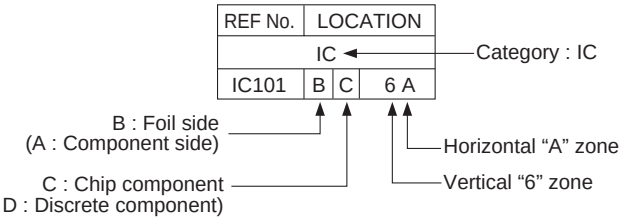
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

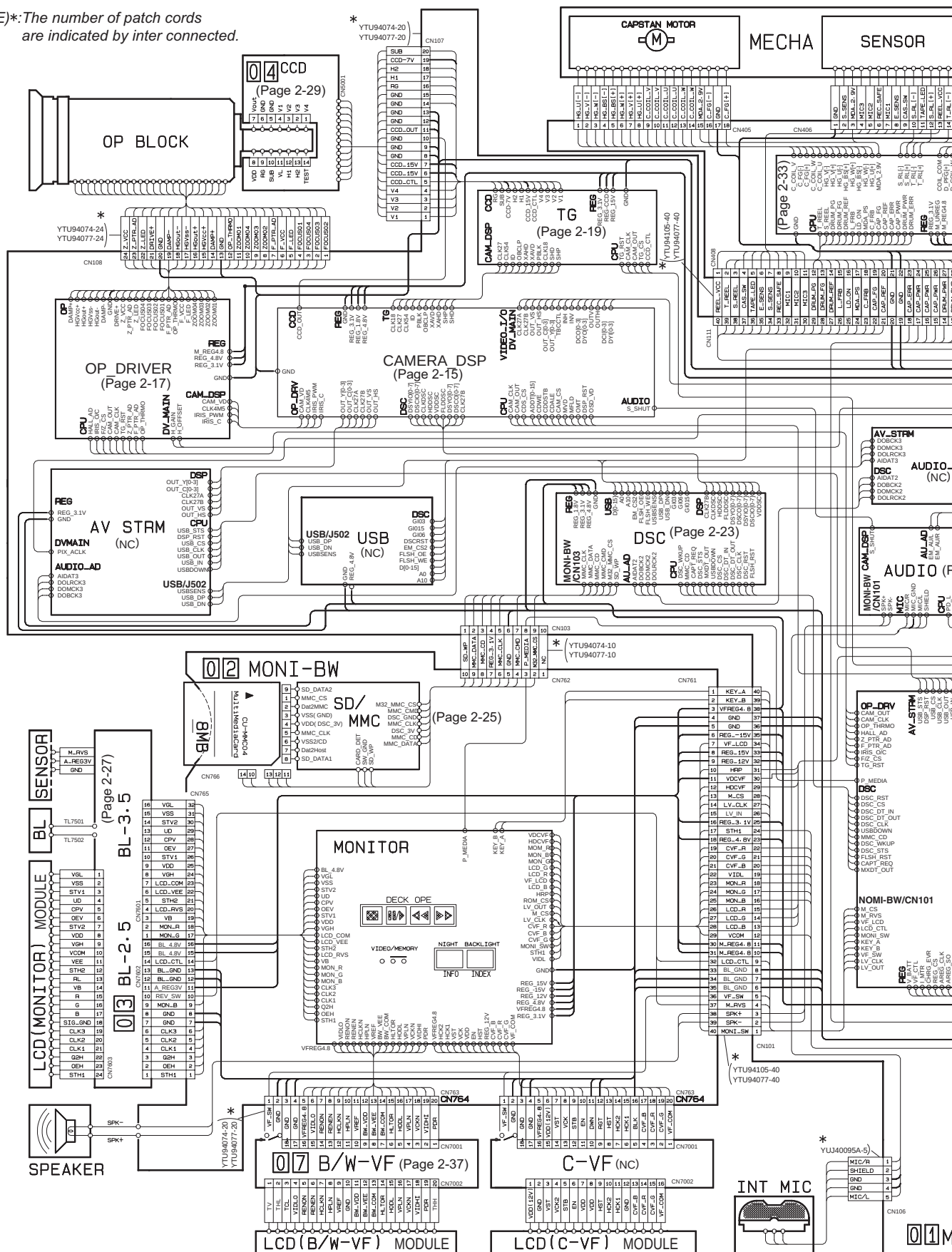
Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ BOARD INTERCONNECTIONS

NOTE)*:The number of patch cords
are indicated by inter connected.



MAIN IF SCHEMATIC DIAGRAM

5

4

3

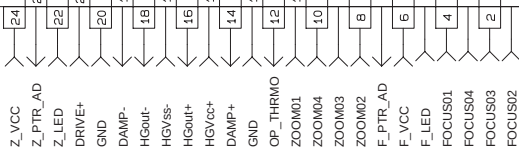
2

1

2-5

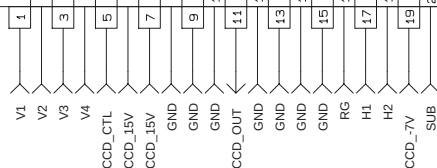
TO OP BLOCK

CN108
QGFO503C1-24V
STRAIGHT



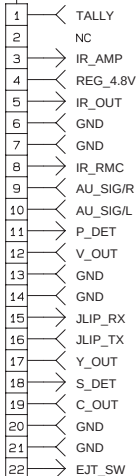
TO CCD CN5001

CN107
QGFO503C1-20X
STRAIGHT



TO JACK CN501

CN102
QSF0505F1-22X
LOWER CONTACT



DIAL_MANU

DIAL_AUTO

DIAL_OFF

DIAL_PB

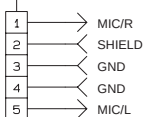
TRIG_SW

PHOTO_SW

0 1 MAIN(MAIN IF)

TO MIC

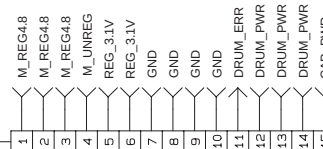
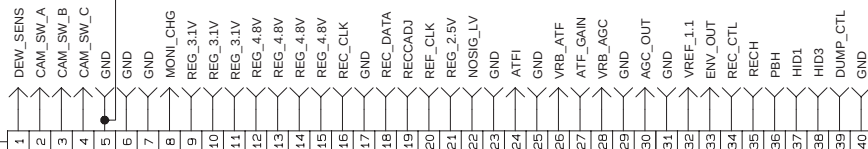
CN106
QGA1201C2-05X
W to B



TP110

TO PREMADA CN401

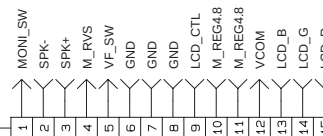
CN110
QGFO528F1-40X
UNDER CONTACT



EXCHANGE PARTS LIST

	R8716	R8717	D8702	D8703	CN103	J502
DSC			*	*	QGFO503	GNZ0497
DSC&Web CAM	0a	0a	*	*	F3-10X	-001X
Web CAM ONLY	0a	0a	EMZ6-BN-X	EMZ6-BN-X	QGFO503	GNZ0497
NO DSC/DSC&Web CAM	*	*	*	*	F3-10X	-001X

NOTE: The parts with marked (※) is not used.



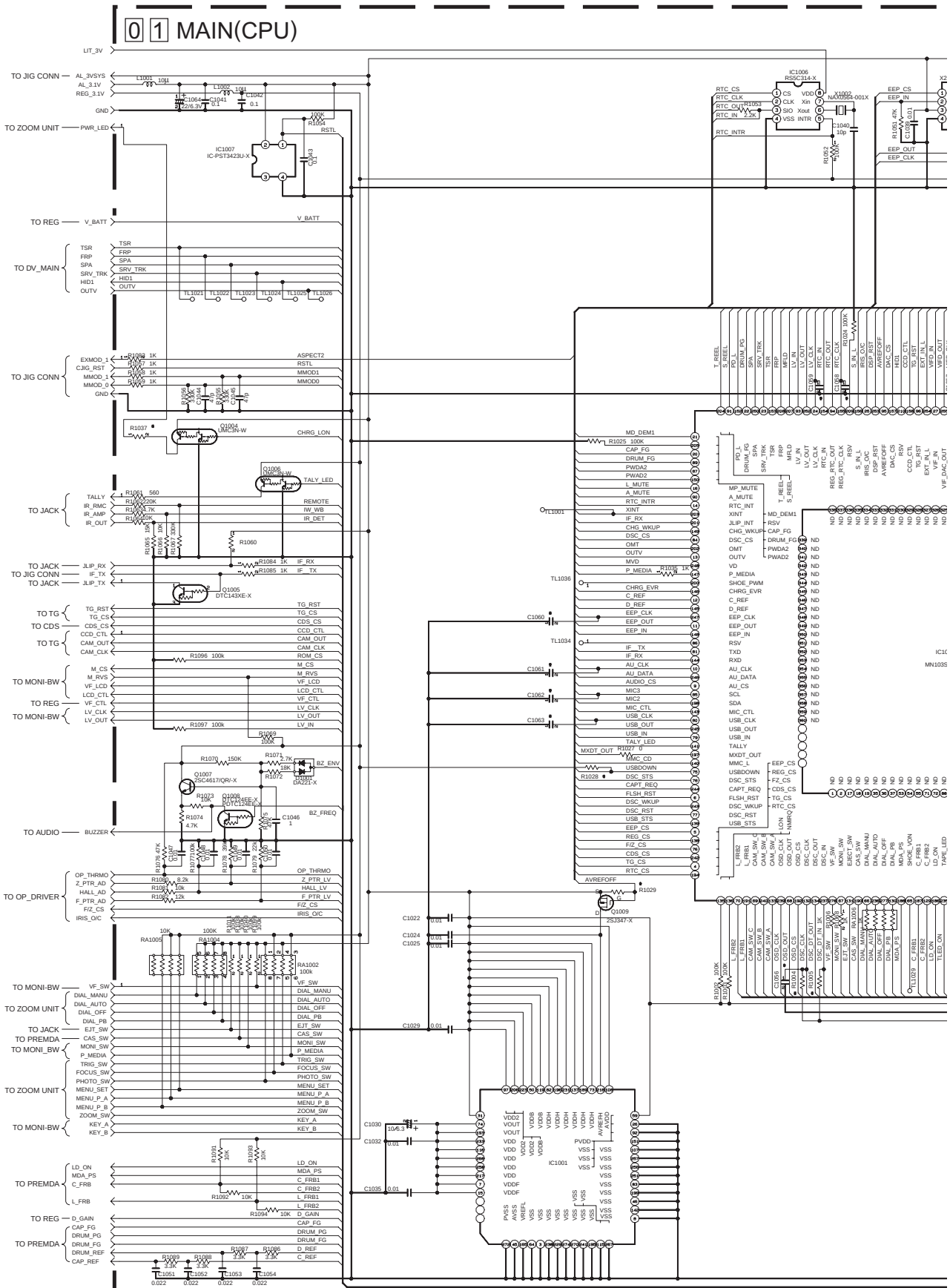
A

B

C

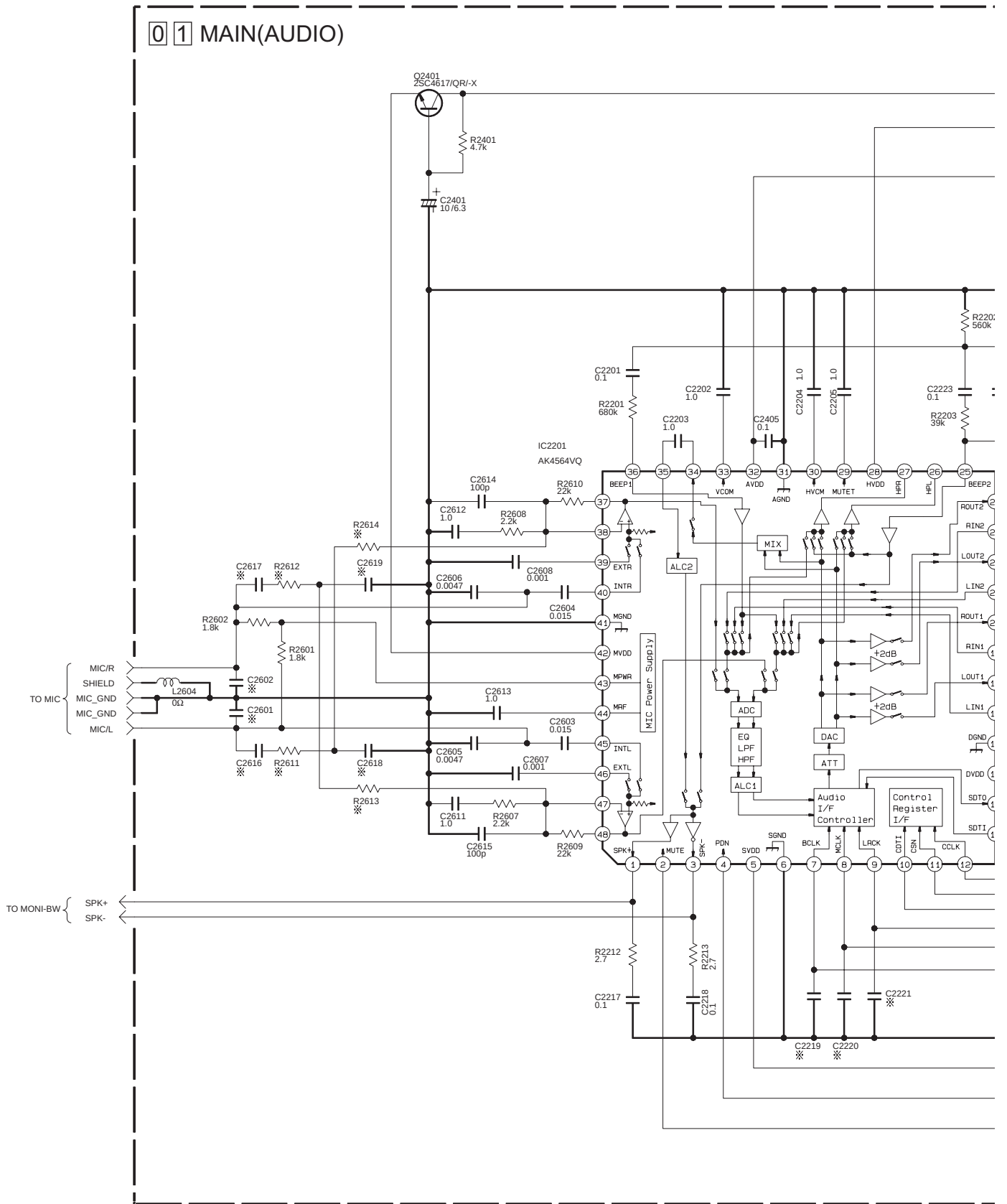
D

■ CPU SCHEMATIC DIAGRAM

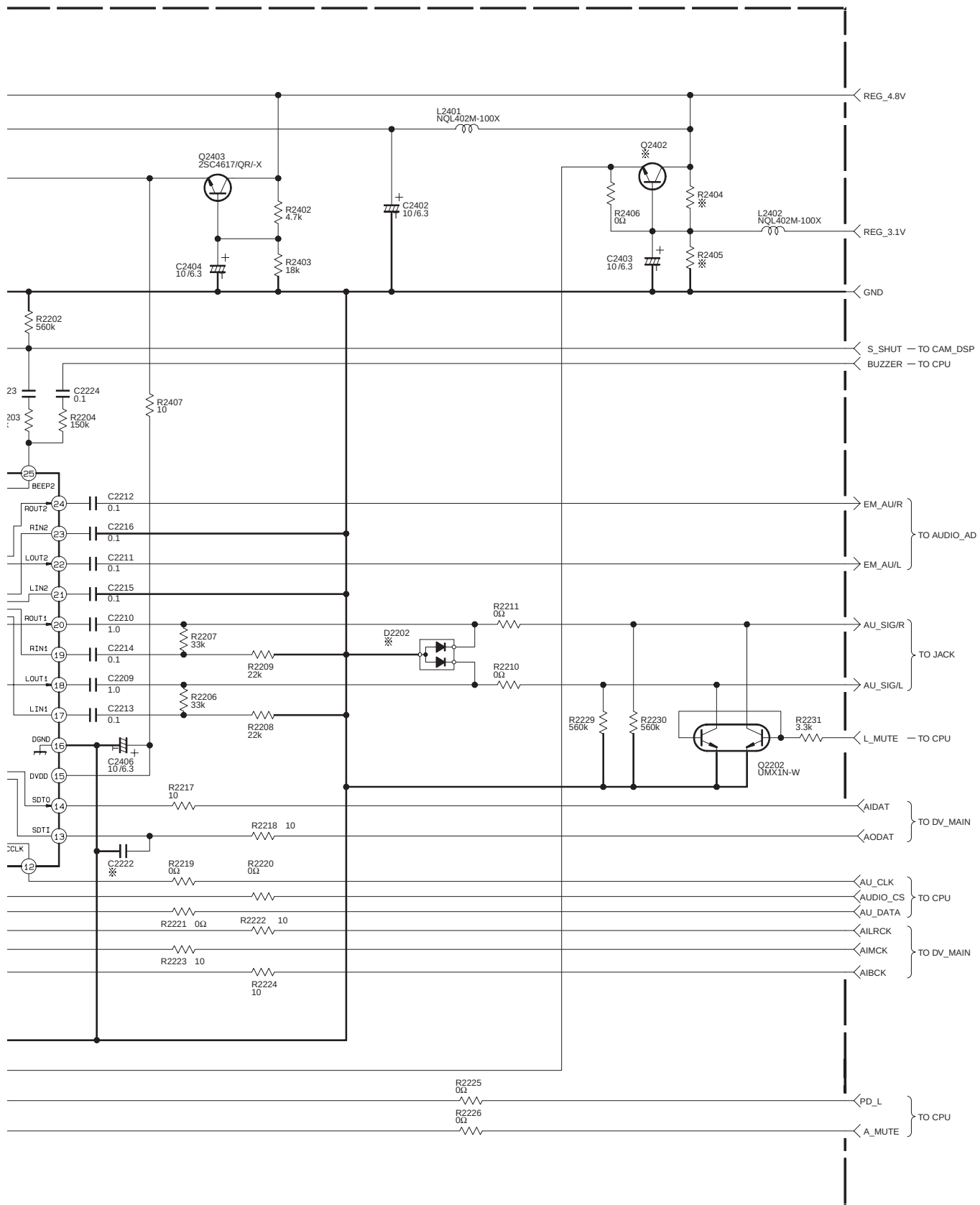


NOTE: The parts with marked (※) is not used.

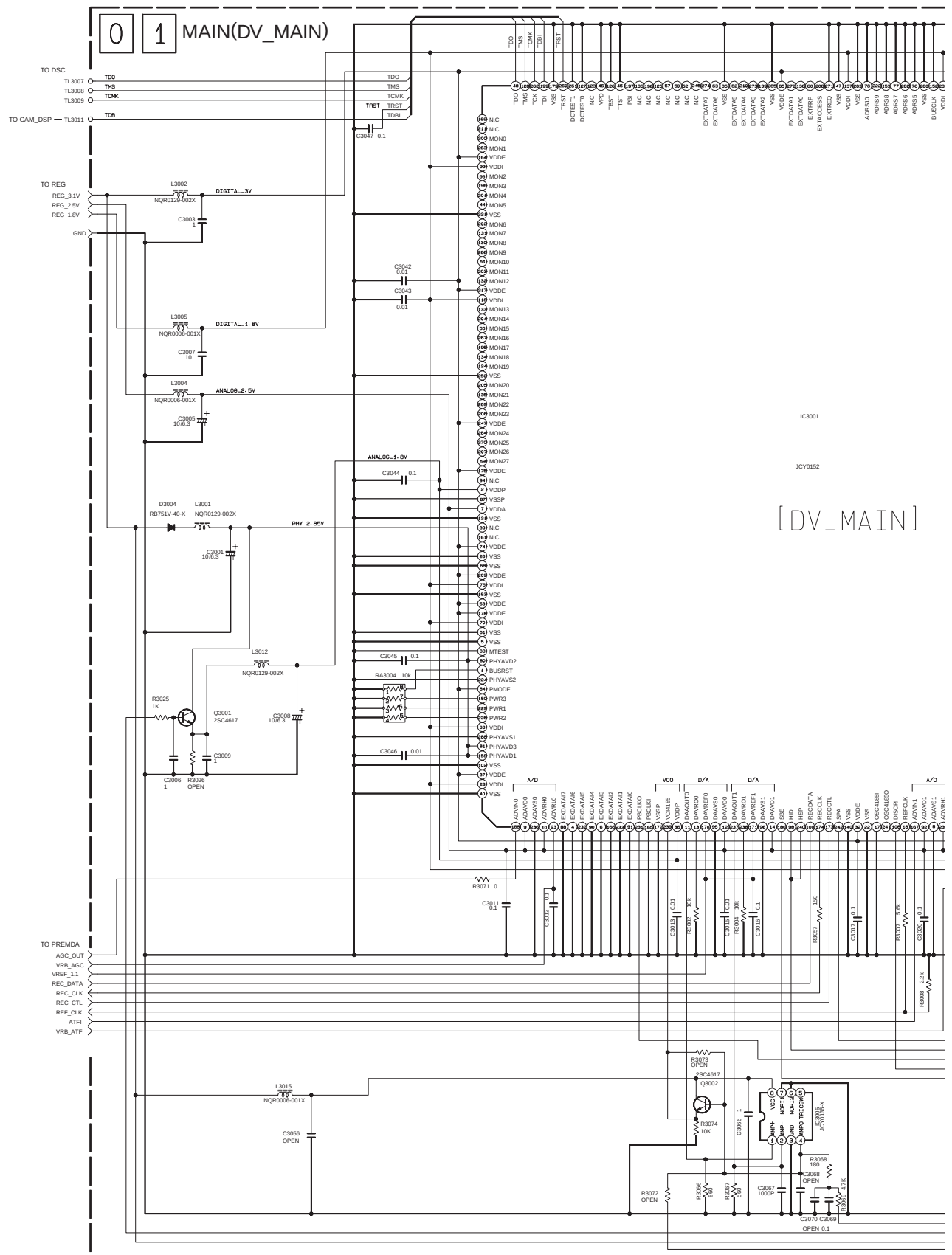
■ AUDIO SCHEMATIC DIAGRAM



NOTE: The parts with marked (※) is not used.



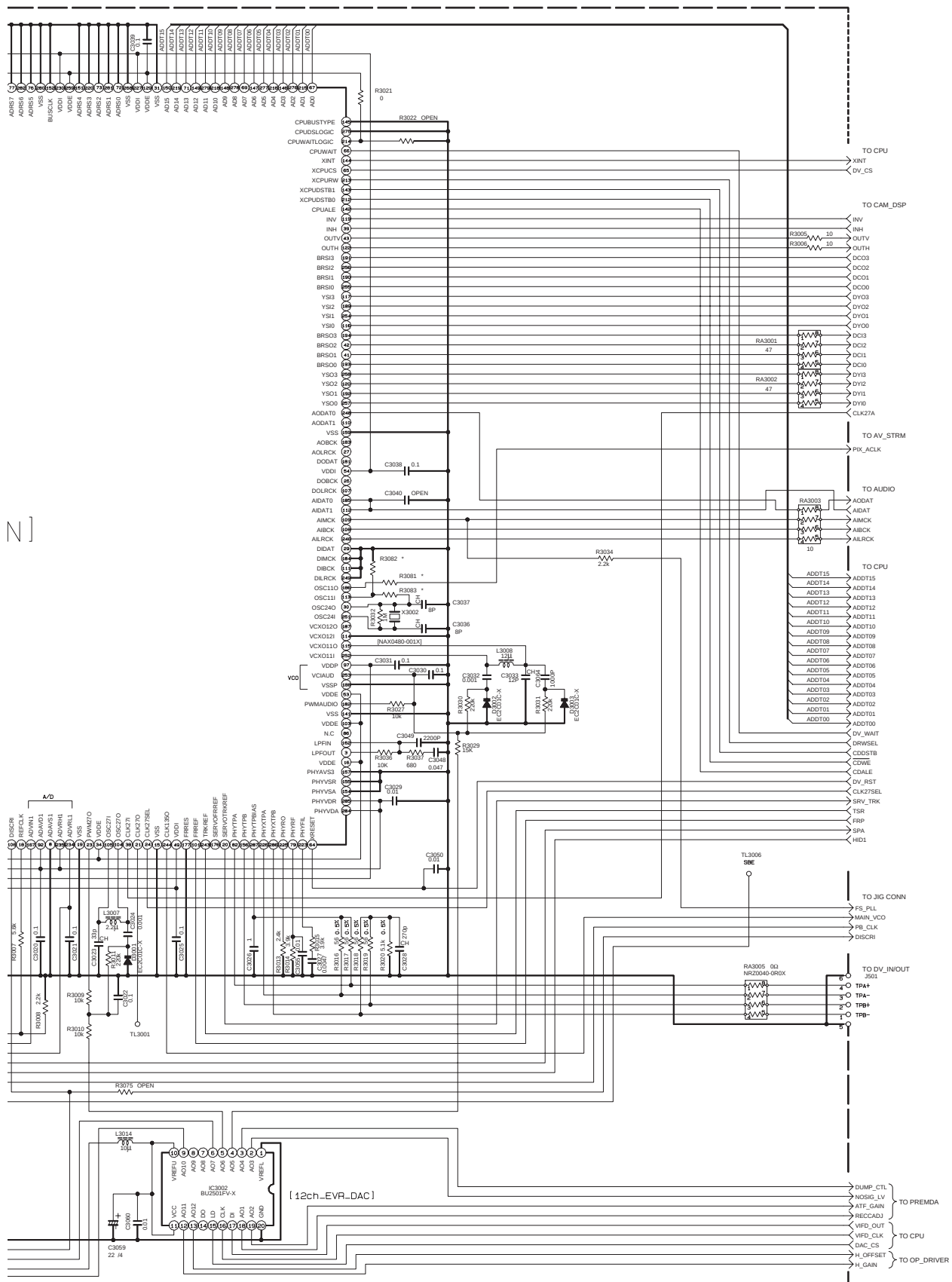
■ DV_MAIN SCHEMATIC DIAGRAM



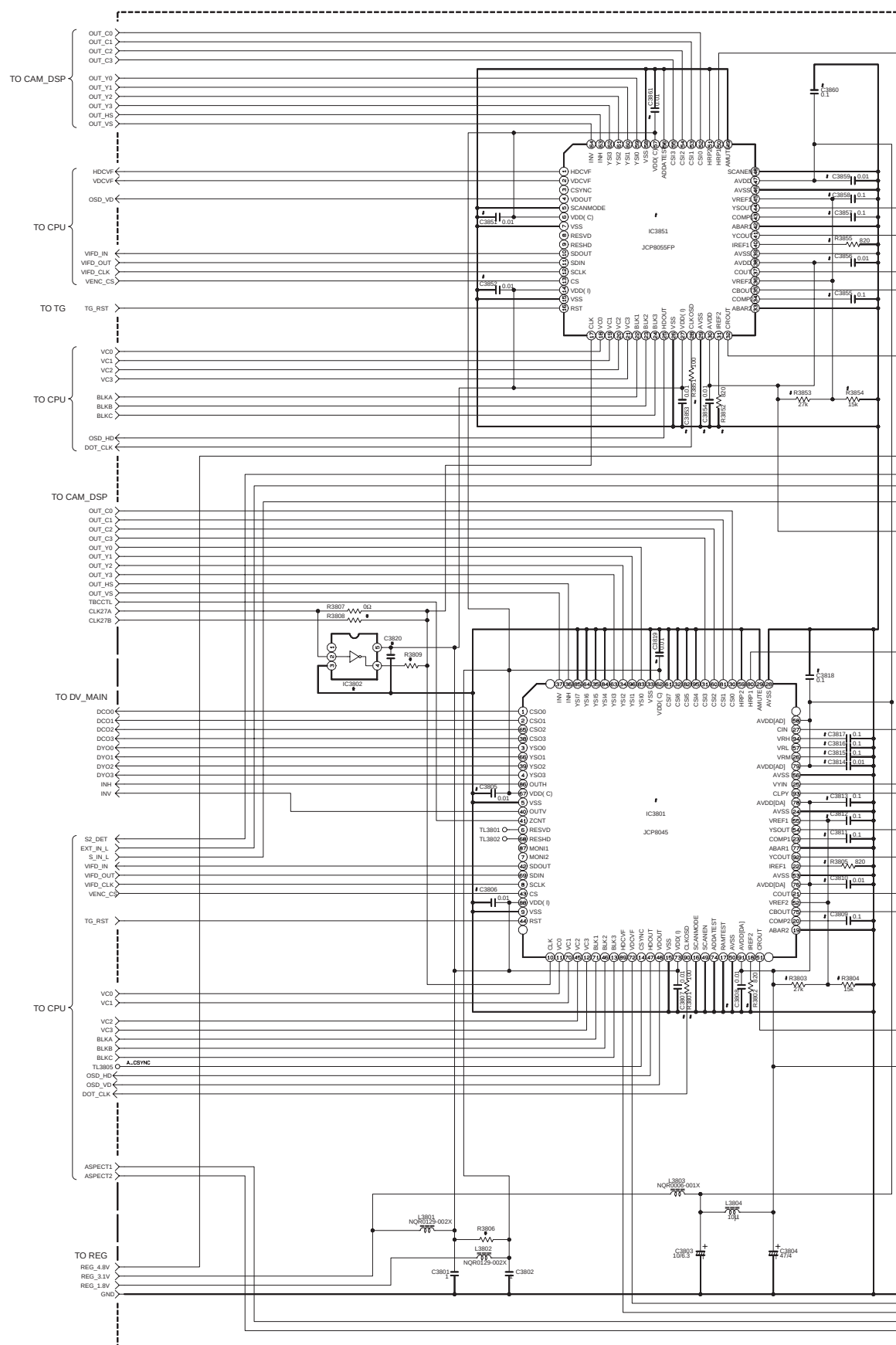
DIFFERENT PARTS LIST

	R3081	R3082	R3083
NON_PIX	OPEN	0a	OPEN
PIXELA	470a	OPEN	0a

NOTE: The parts with marked (*) is not used.



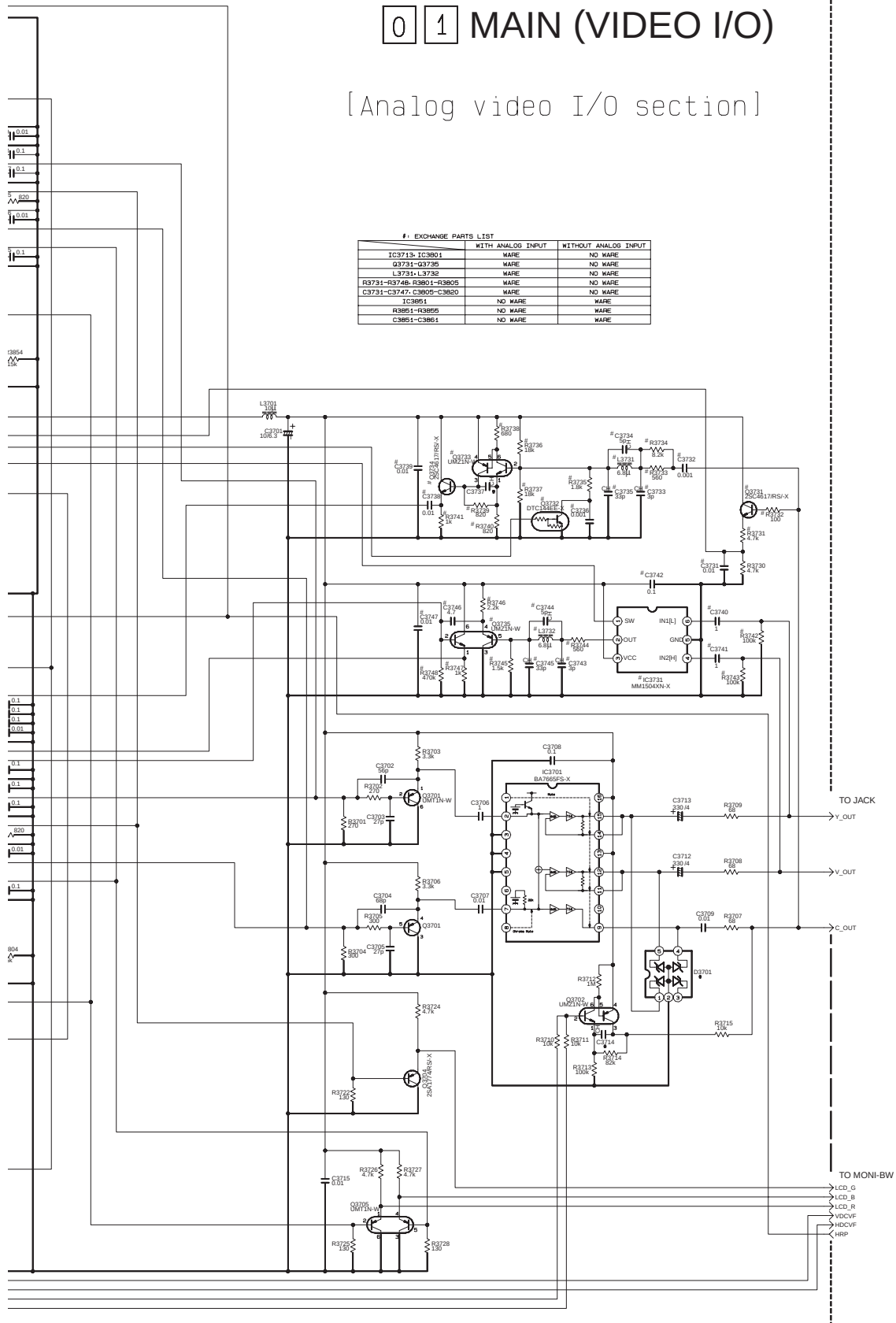
■ VIDEO I/O SCHEMATIC DIAGRAM



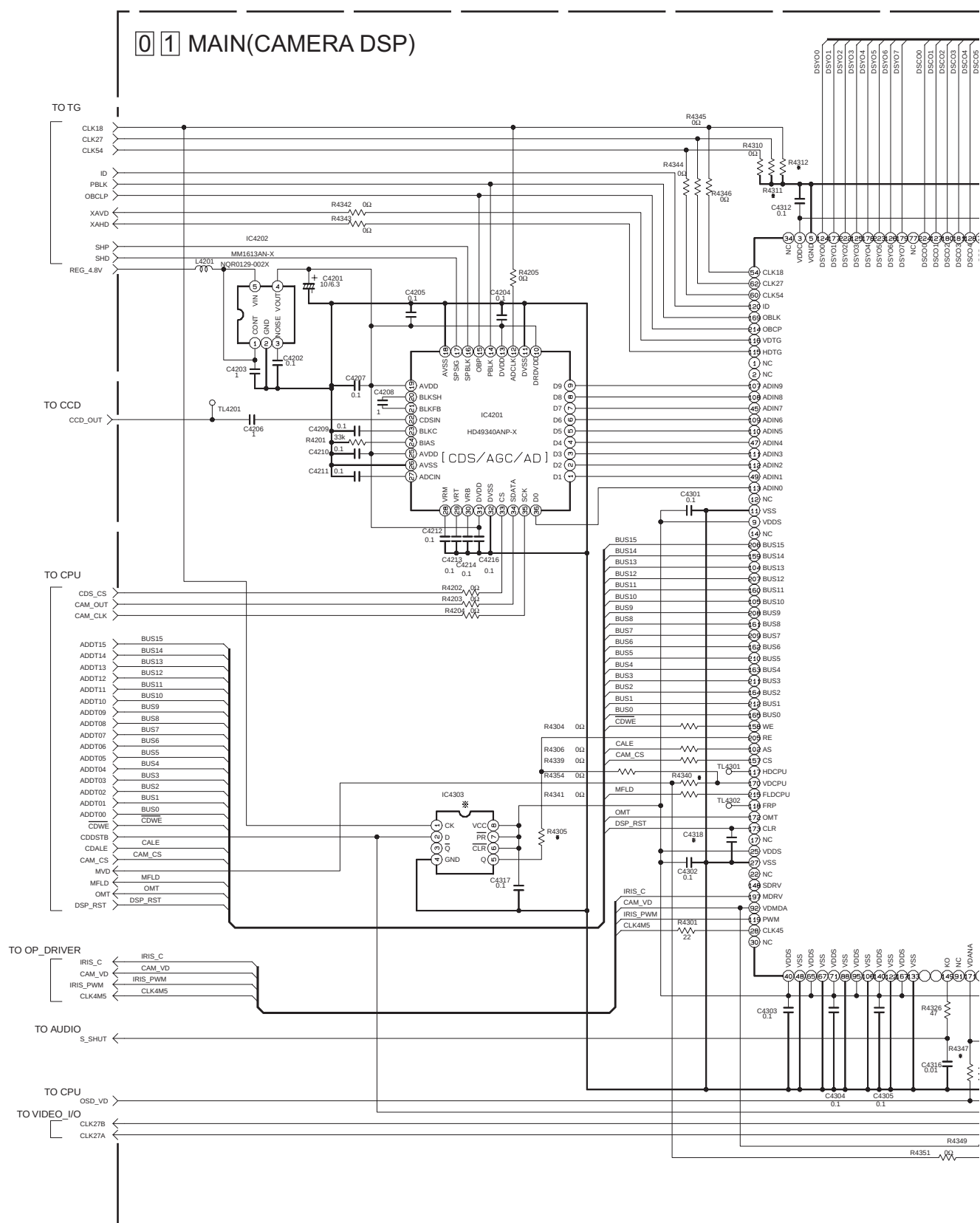
NOTE: The parts with marked (※) is not used.

```
[Analog video I/O section]
```

F: EXCHANGE PARTS LIST		
	WITH ANALOG INPUT	WITHOUT ANALOG INPUT
IC3713-IC3801	WARE	NO WARE
Q3731-Q3735	WARE	NO WARE
L3731, L3732	WARE	NO WARE
R3731-R3748, R3801-R3805	WARE	NO WARE
C3731-C3747, C3805-C3820	WARE	NO WARE
IC3951	NO WARE	WARE
R3851-R3855	NO WARE	WARE
C3851-C3861	NO WARE	WARE

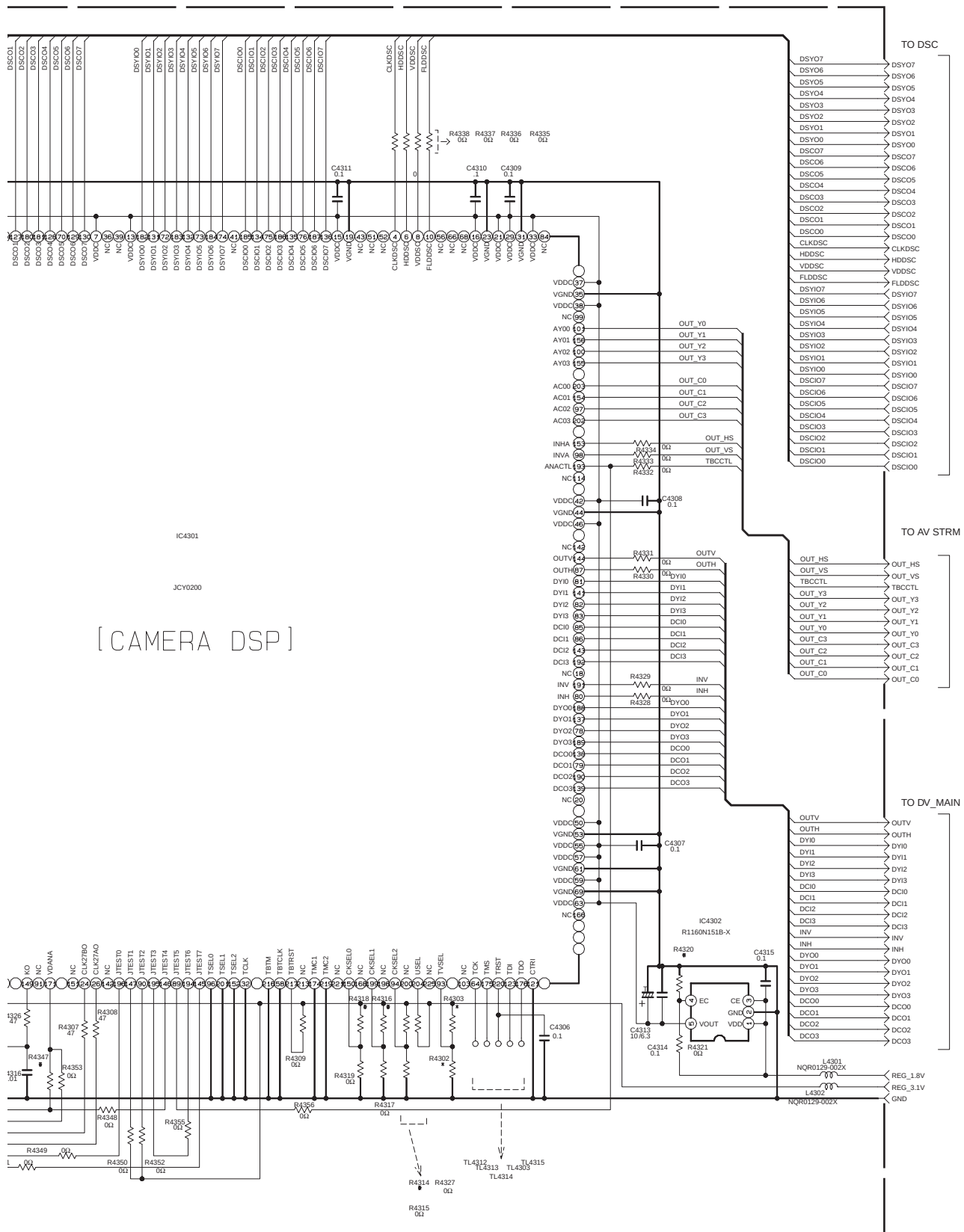


CAMERA DSP SCHEMATIC DIAGRAM



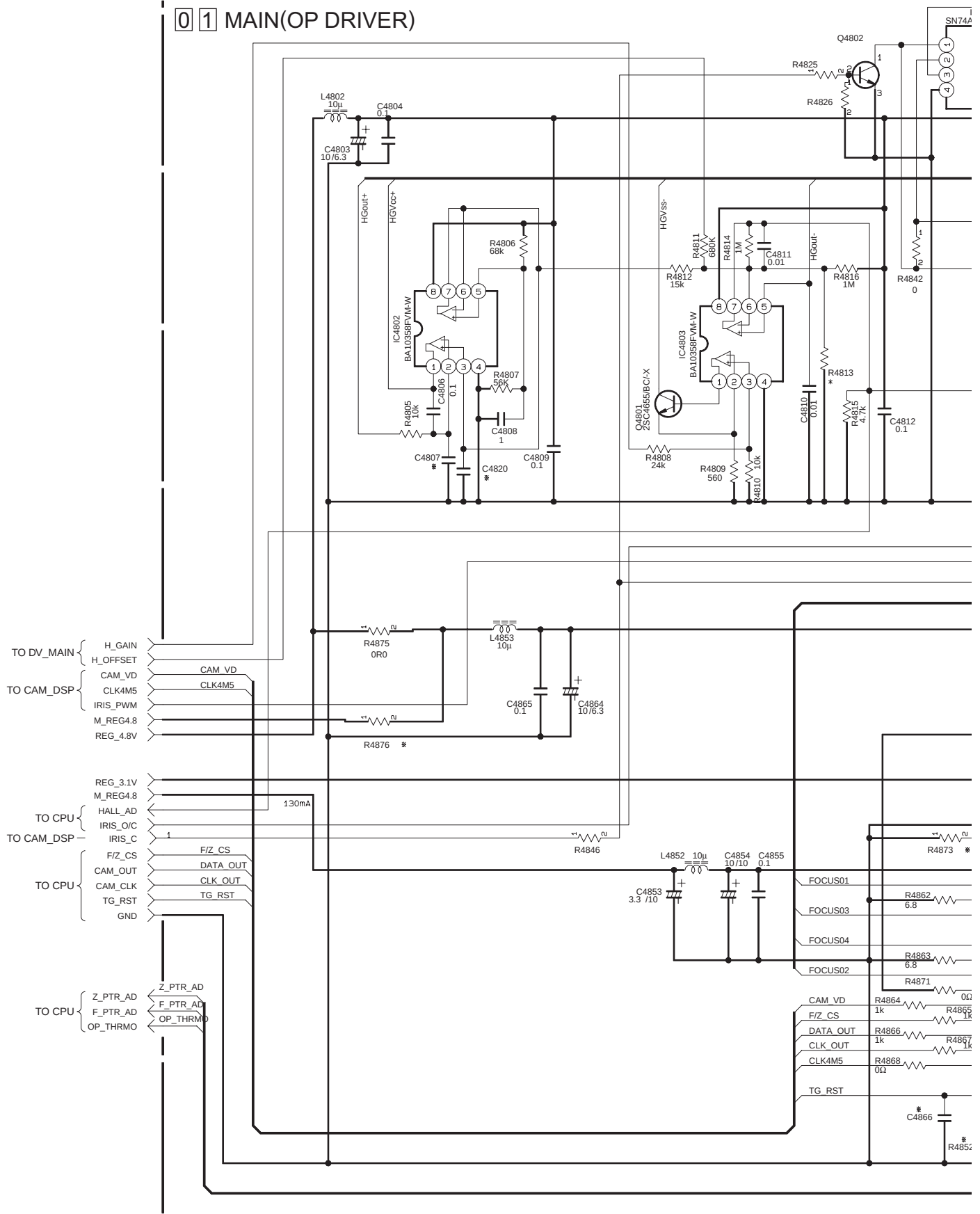
	R4302	R4303
NTSC	0 Ω	※
PAL	※	0 Ω

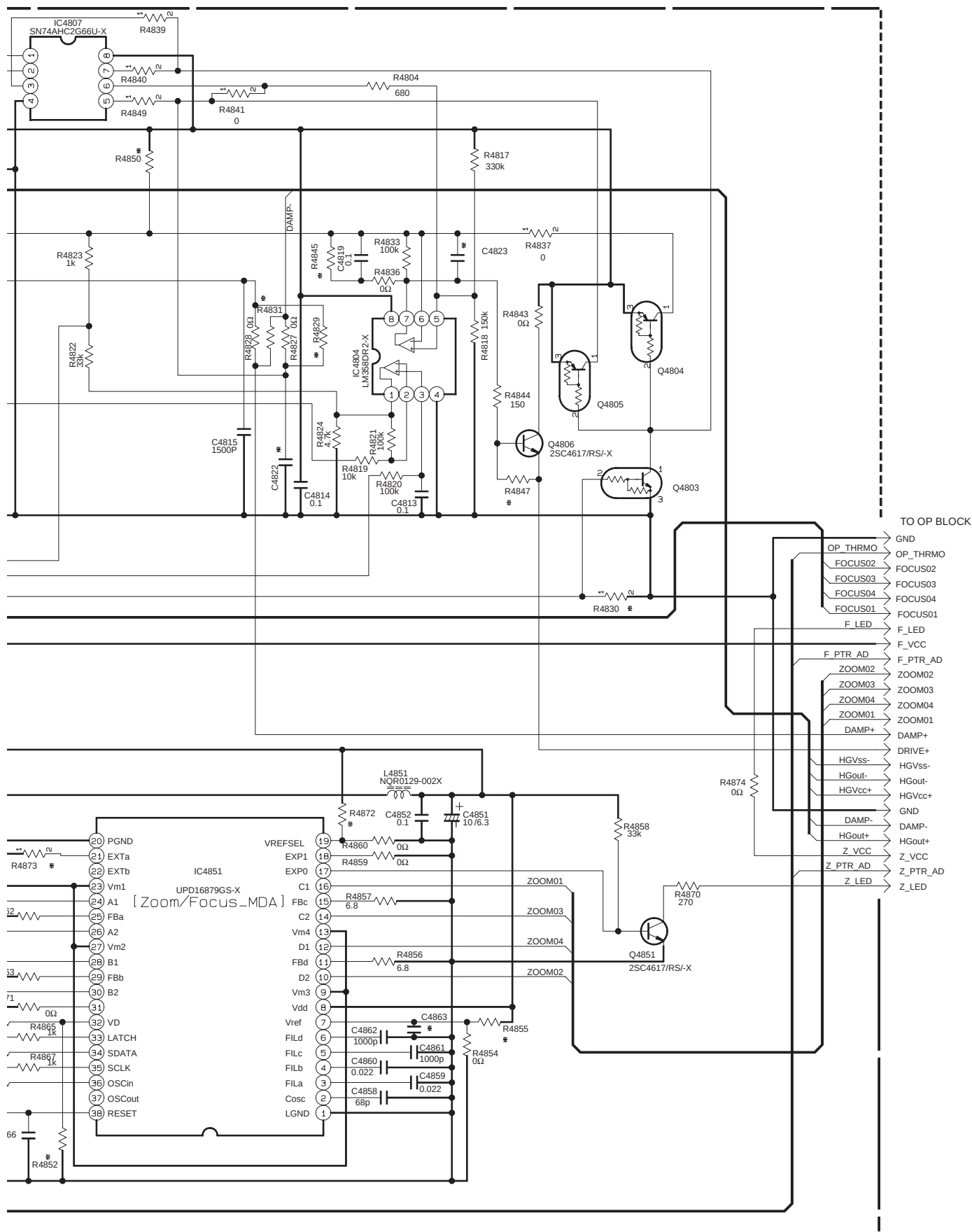
NOTE: The parts with marked (※) is not used.



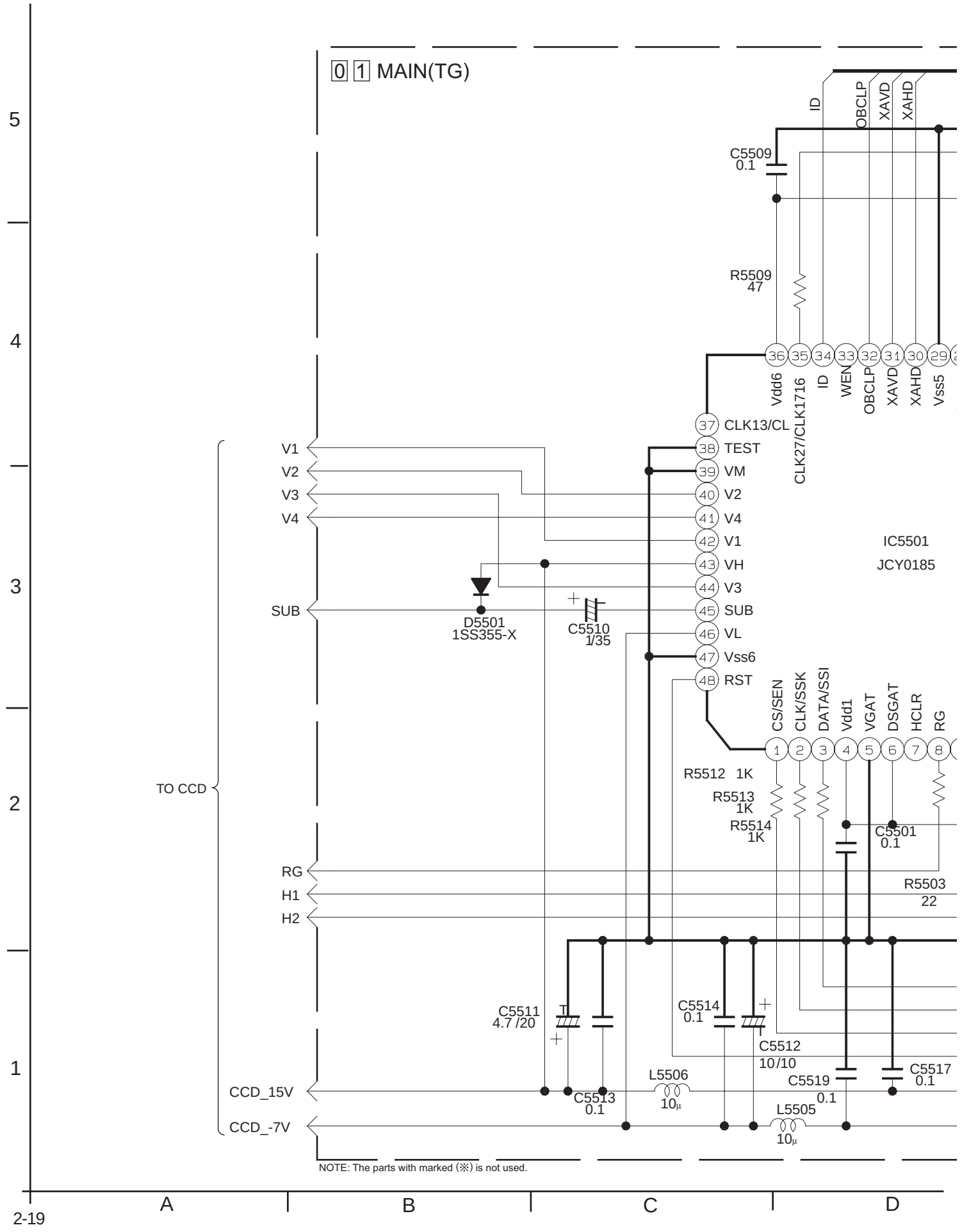
OP DRIVER SCHEMATIC DIAGRAM

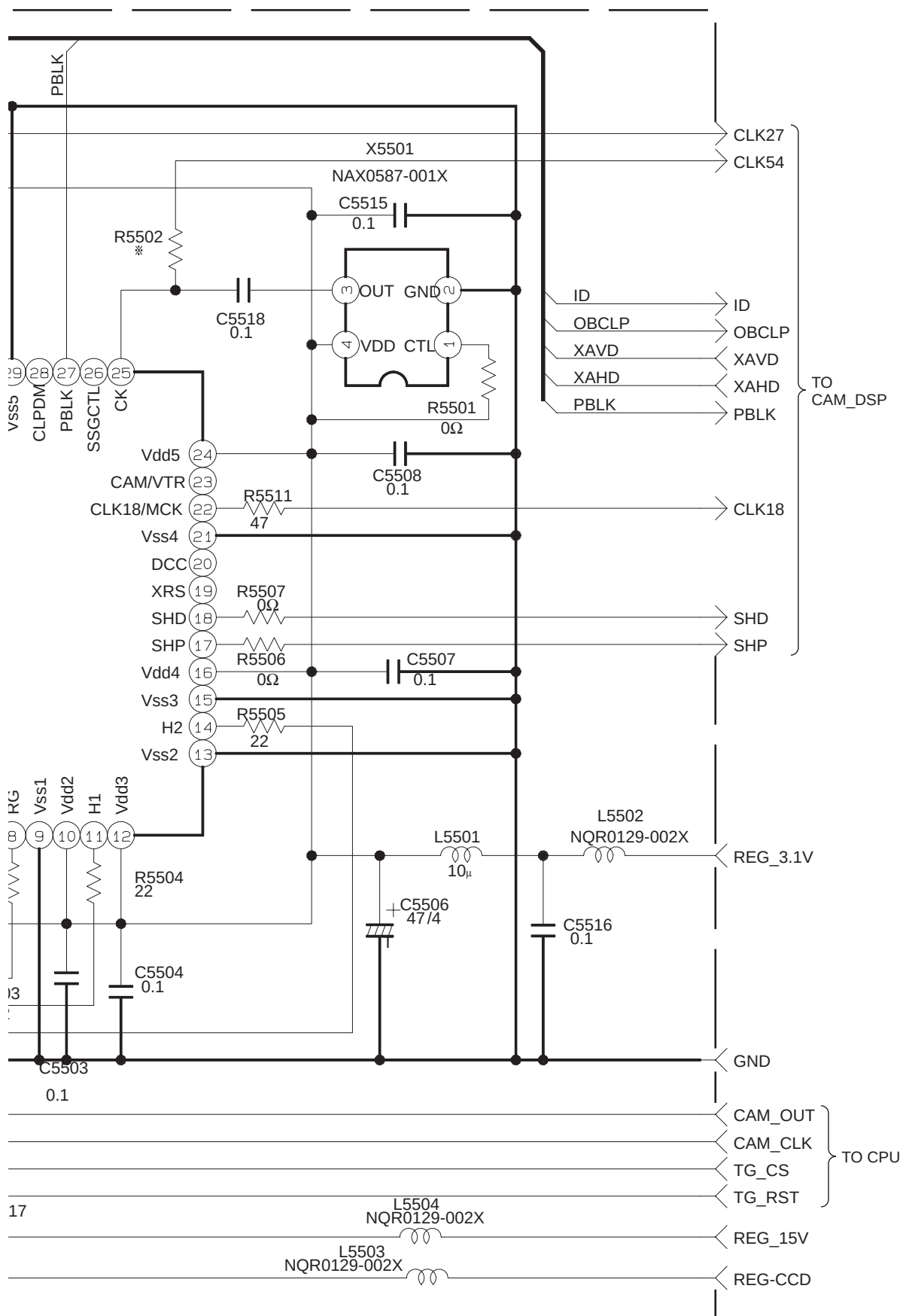
01 MAIN(OP DRIVER)





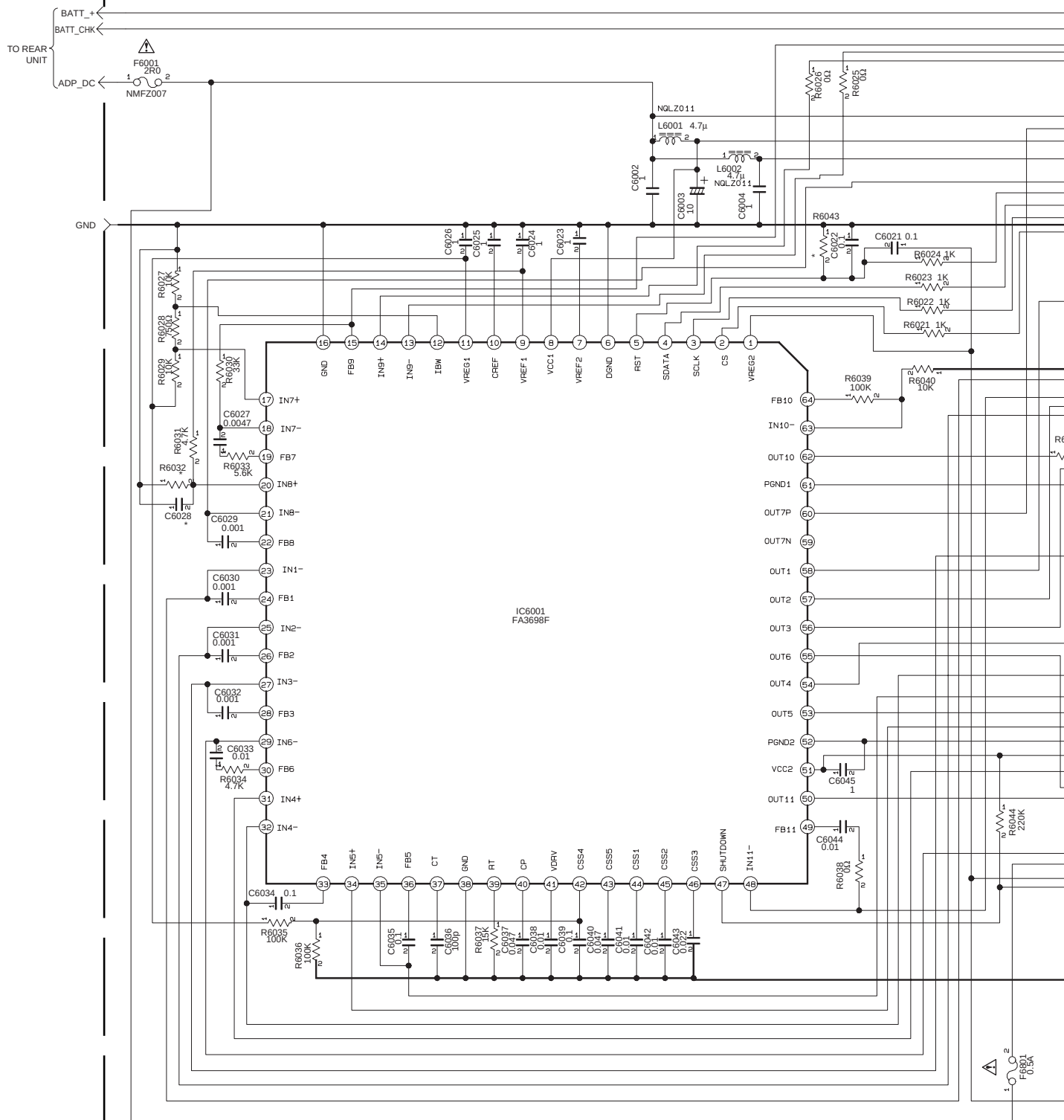
■ TG SCHEMATIC DIAGRAM



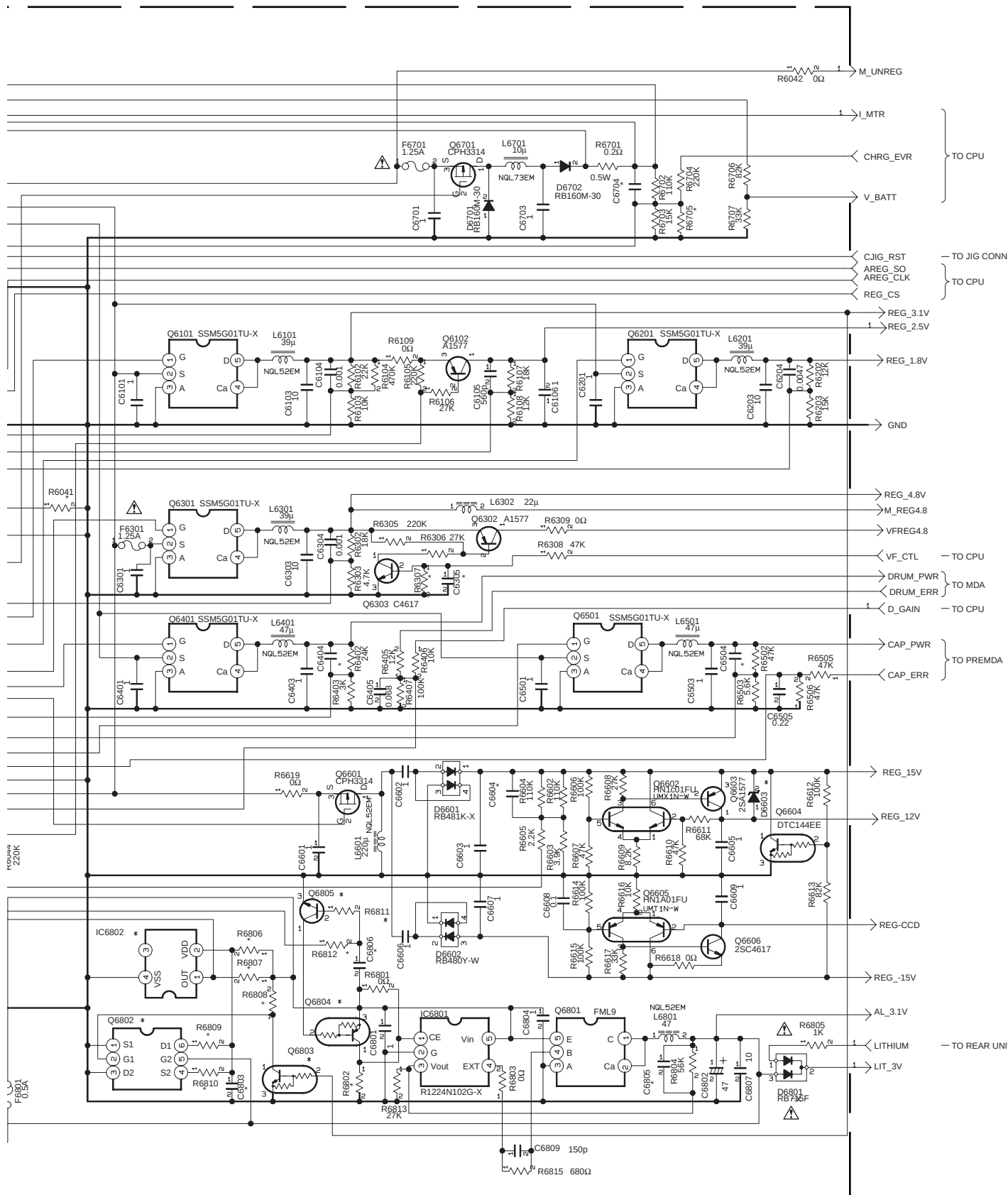


■ REG SCHEMATIC DIAGRAM

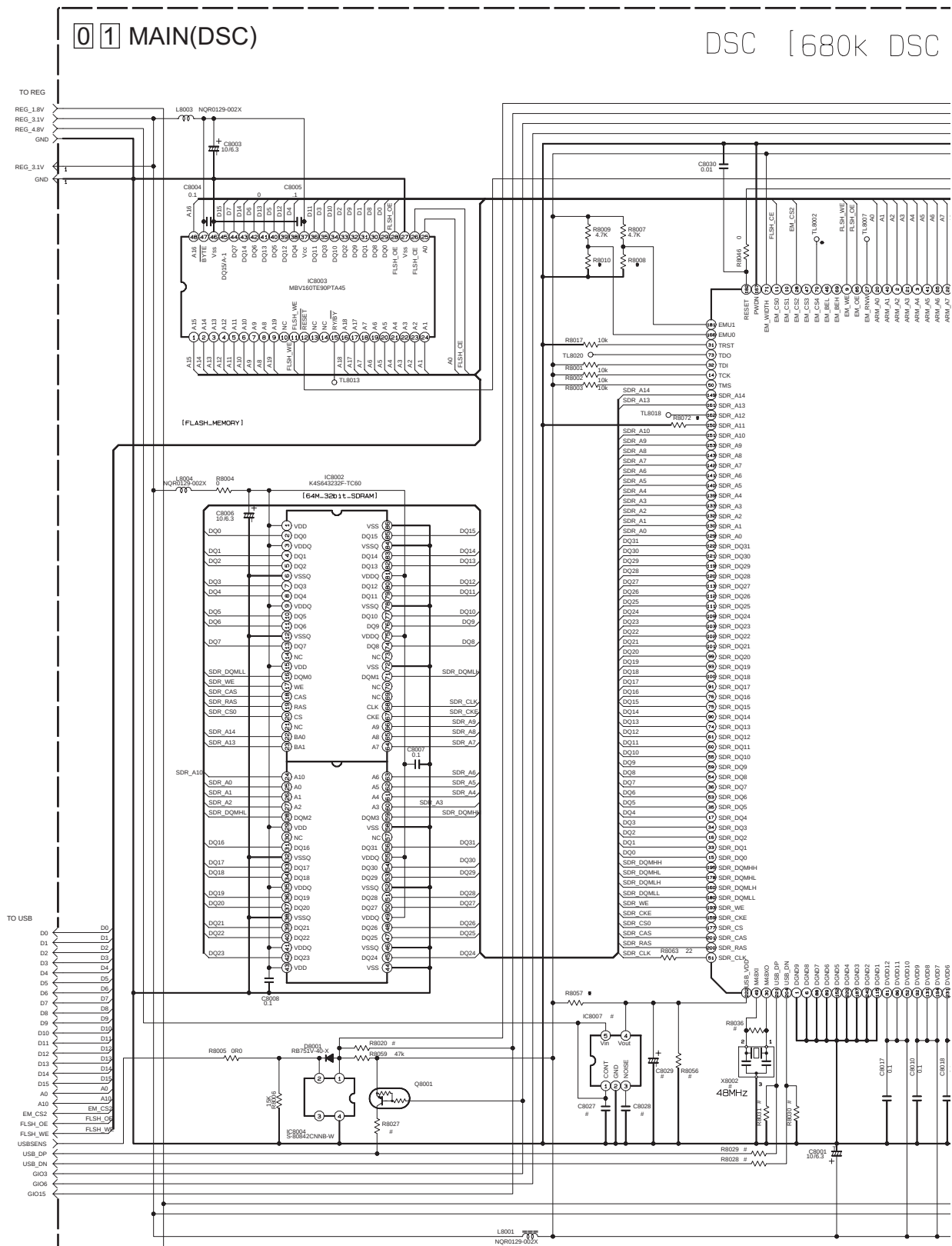
0 1 MAIN(REG)



NOTE: The parts with marked (*) is not used.



■ DSC SCHEMATIC DIAGRAM

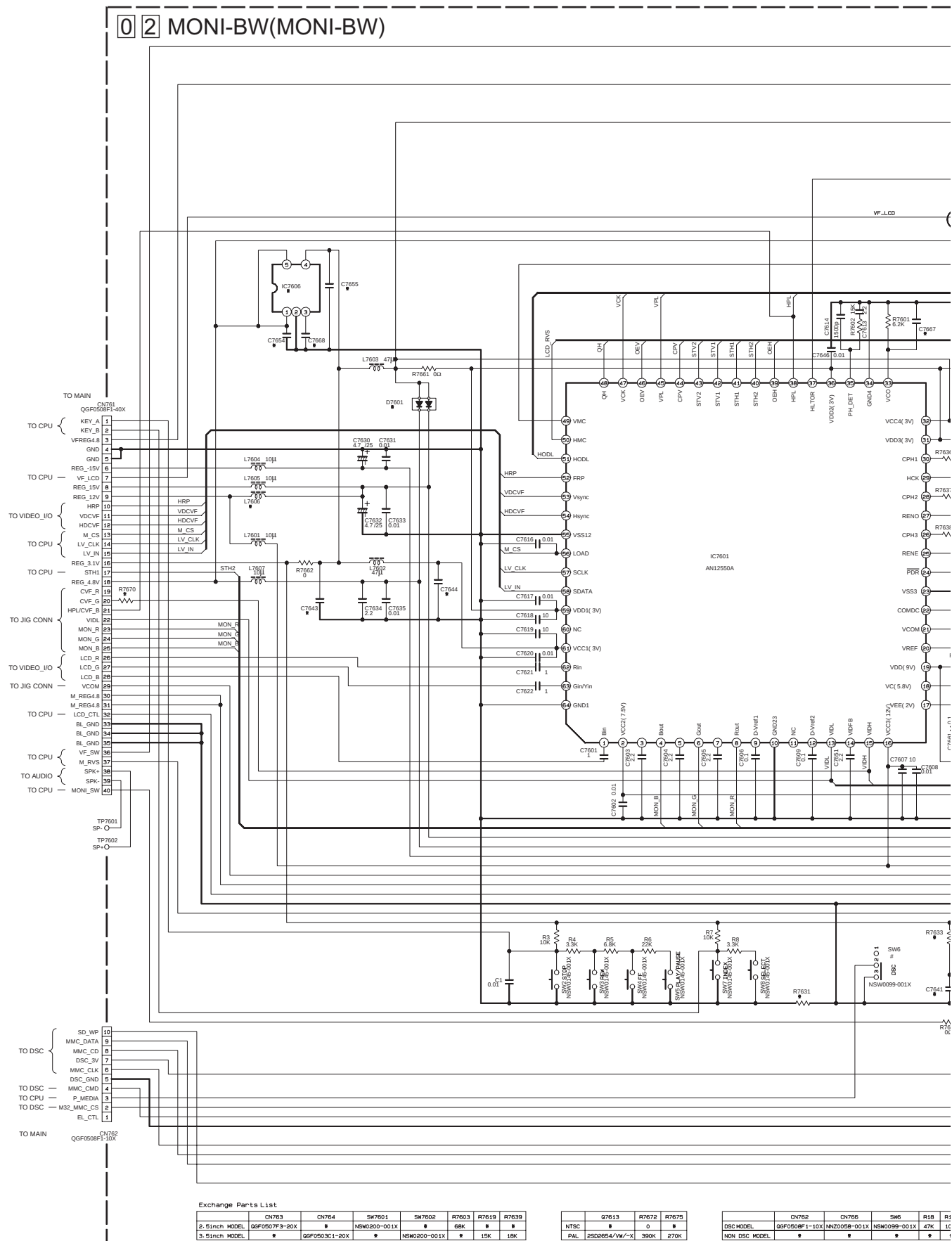
# EXCHANGE PARTS LIST

SYMBOL NO.	1C8006	1C8077	X8002	G8001	G8002	L8006	R8020	R8027	R8028	R8029	R8030	R8031	R8036	R8056	R8060	R8070	R8071	R8074	R8075	C8022	C8023	C8024	C8025	C8027	C8028	C8029	
MODEL	#	#	MM1613N-4	NANO59R-0013	DTA114EE-4	#	#	0a	1-5K	22a	22a	1M	1M	1M	#	0a	#	0a	#	#	#	#	#	#	1aF	0-1aF	0aF/1a-3V
MEB CAN	2C80027F	#	#	#	25A157-4	NANO129R-0014	#	#	#	#	0a	0a	0a	0a	#	22a	#	47K	1K	0-1aF	0-1aF	0-1aF	0-1aF	#	#		

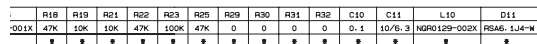
NOTE: The parts with marked (※) is not used.

The diagram illustrates the internal structure of the TMS320D55C24GHKL ADC module. It shows the input multiplexer, the main ADC core, and the output multiplexer. The input multiplexer selects between 16 input channels (A0-A15, D0-D15) and routes them to the ADC core. The ADC core consists of a series of comparators and logic blocks that convert the input signal into a digital output. The output multiplexer then routes the digital output to the output bus (D0-D15). The diagram also shows the power supply connections (VDD, VSS, VREF) and the internal clocking (CLKIN, CLKOUT). The ADC is shown in a package with pins for input, output, and power. The diagram is a detailed representation of the hardware, showing the internal components and their interconnections.

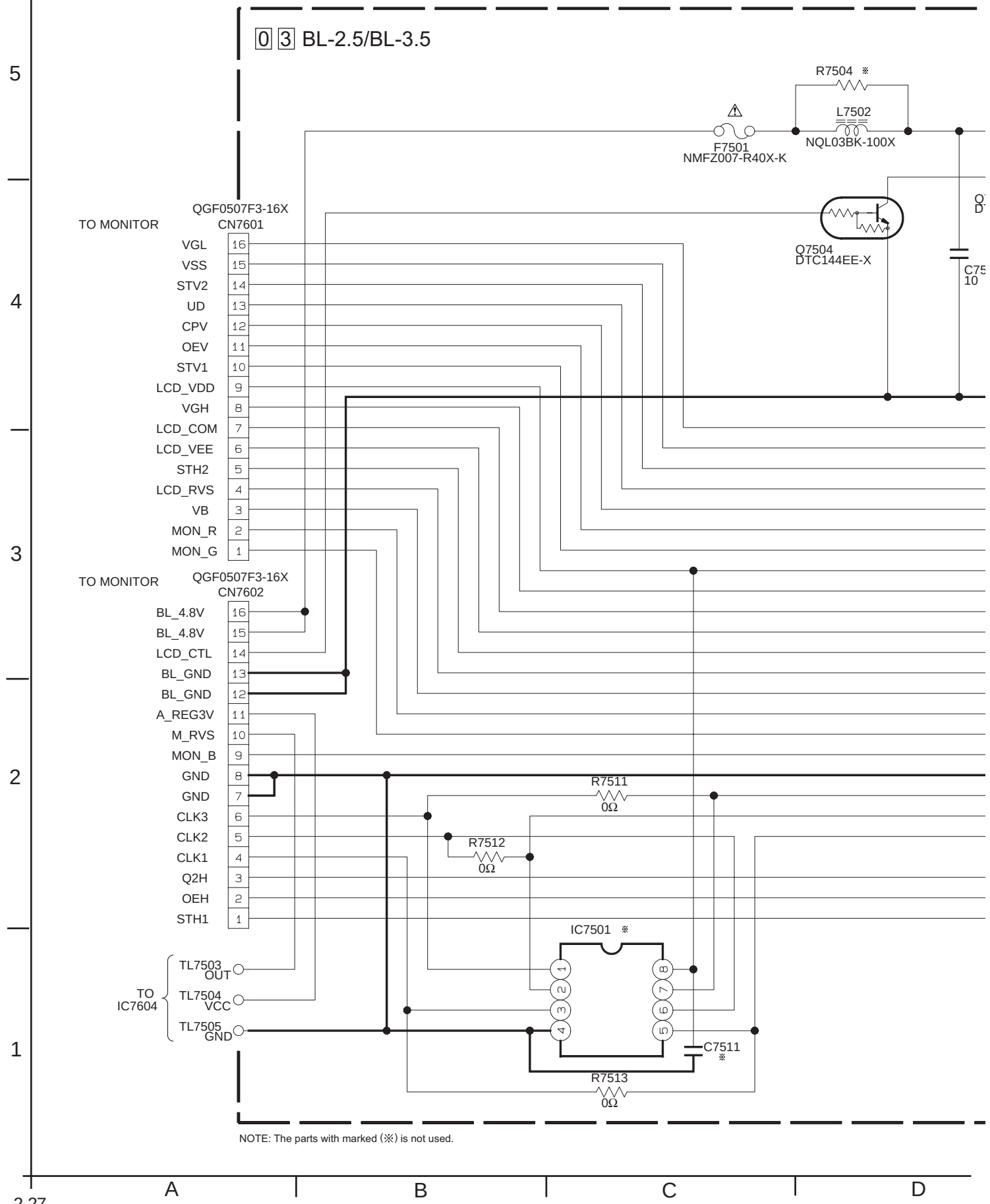
■ MONI-BW SCHEMATIC DIAGRAM

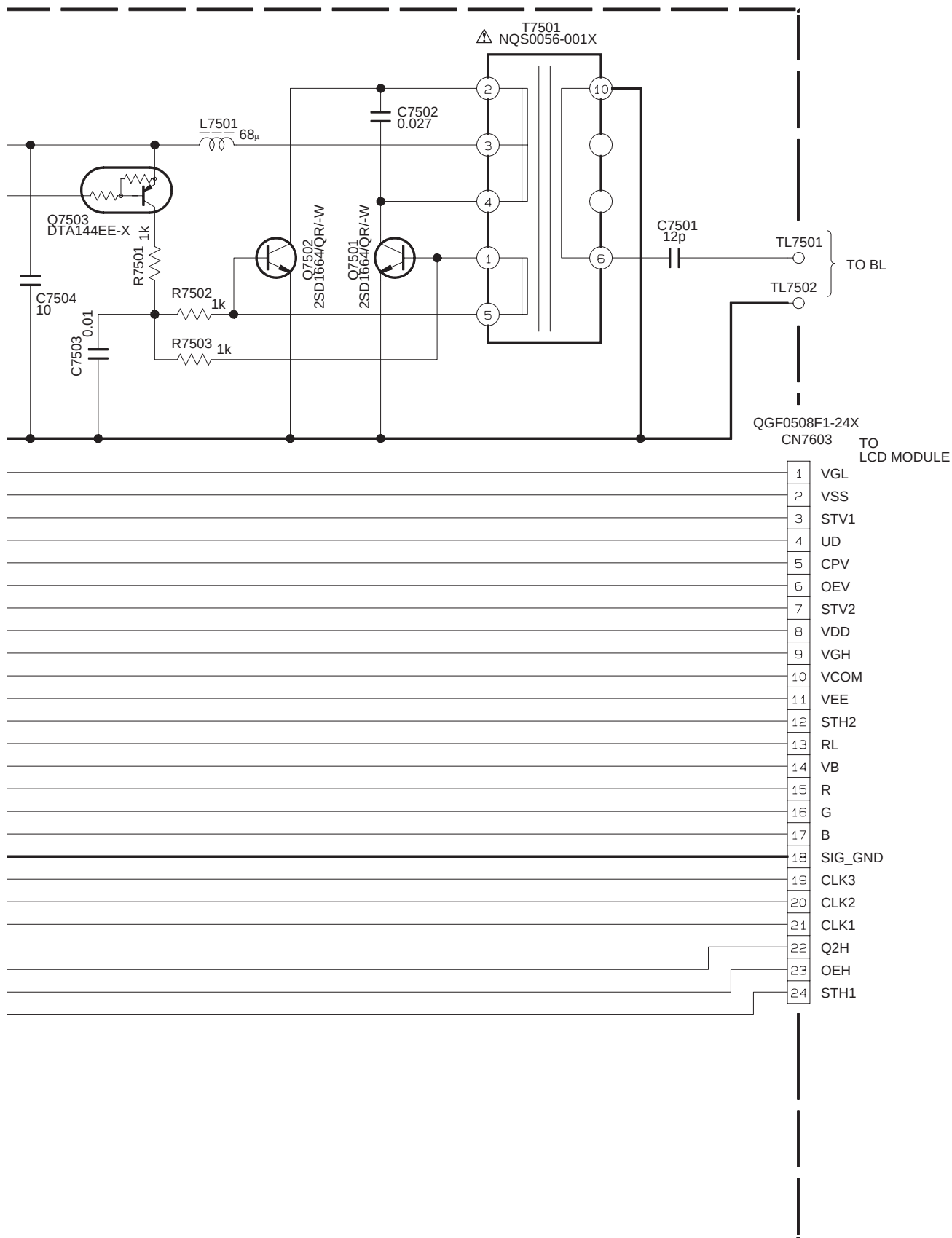


NOTE: The parts with marked (※) is not used.



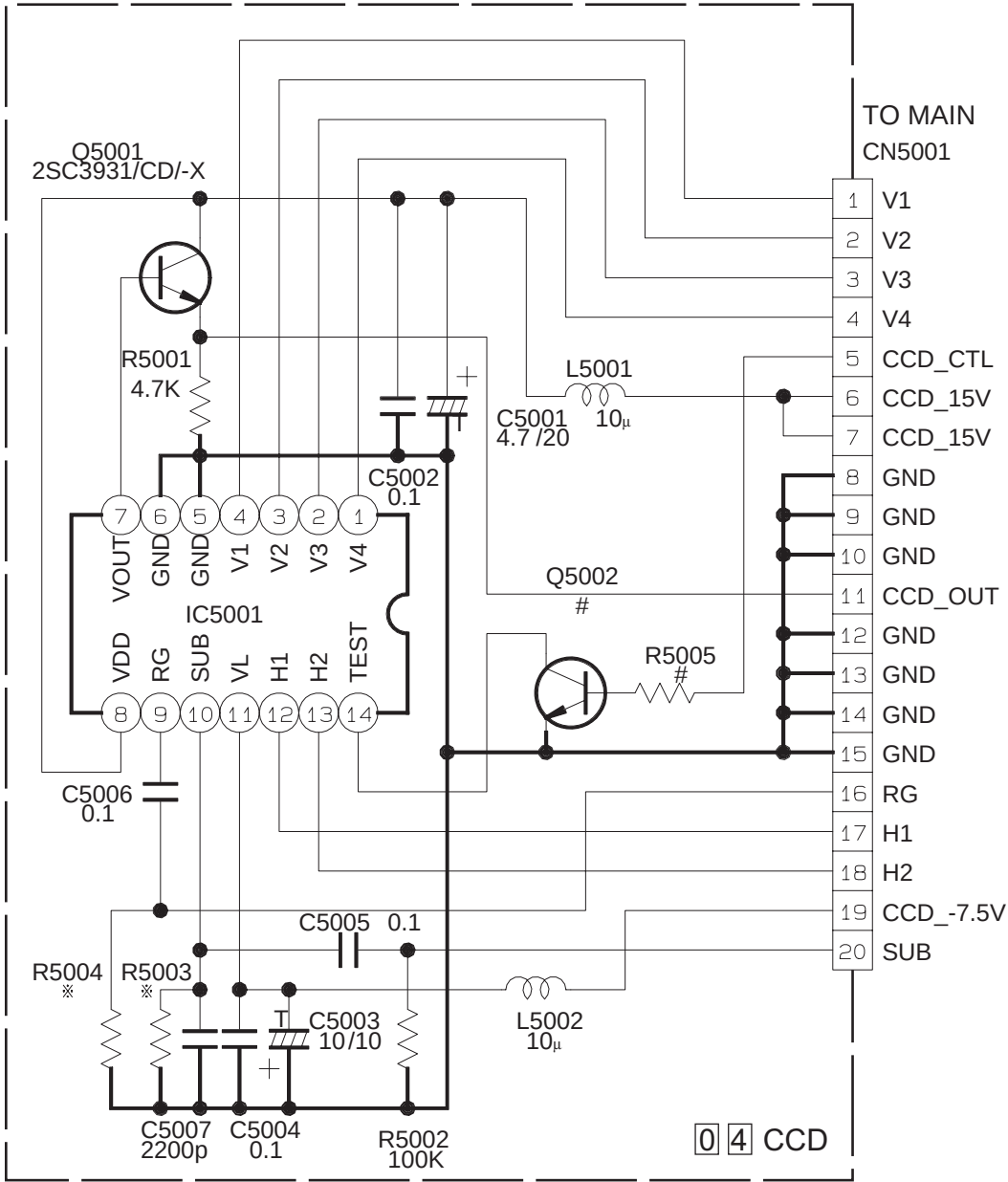
■ BL-2.5/BL-3.5 SCHEMATIC DIAGRAM





■ CCD SCHEMATIC DIAGRAM

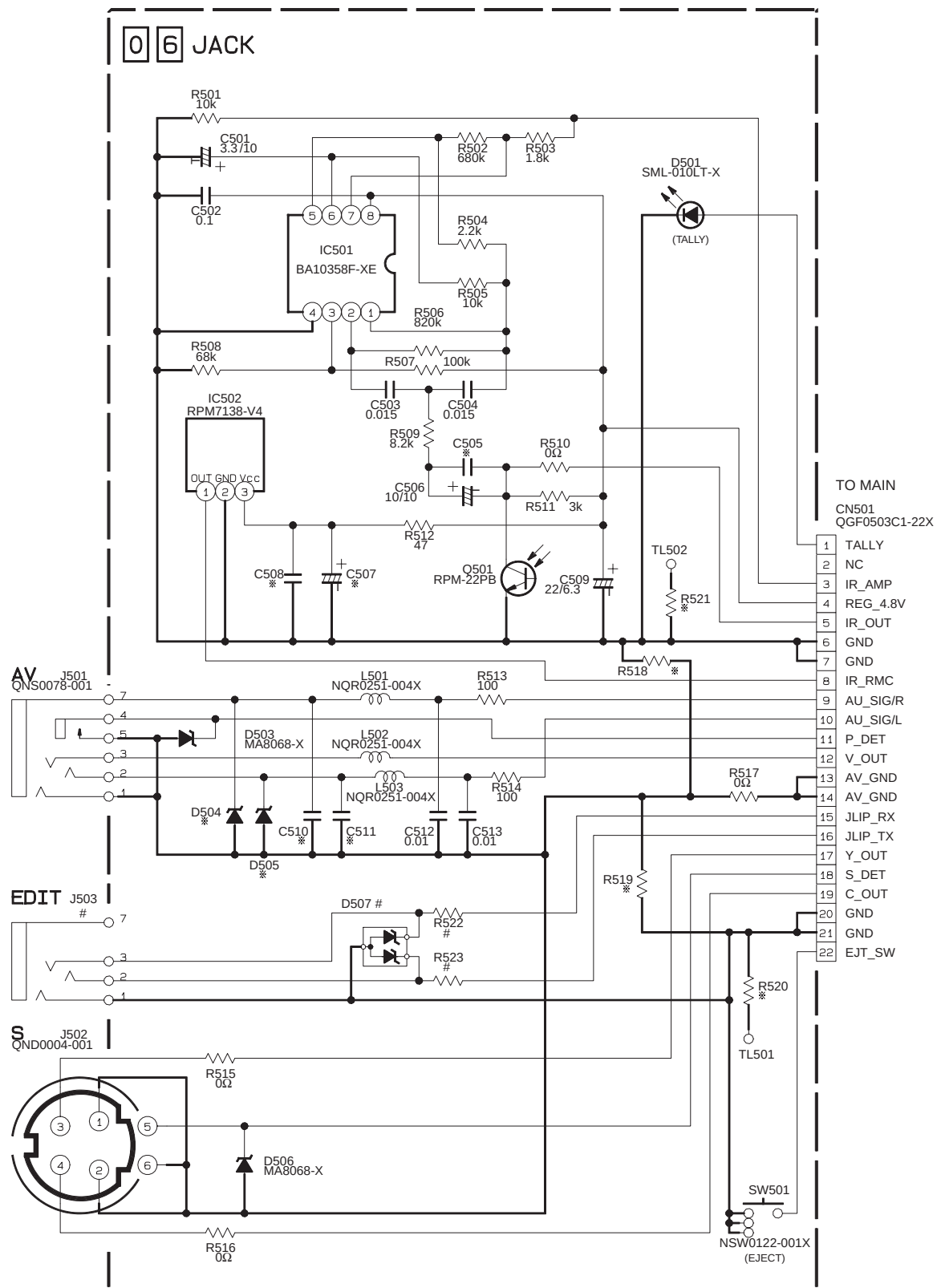
NOTES : • IC5001 is incorporated in the CCD base assembly.
When IC 5001 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.



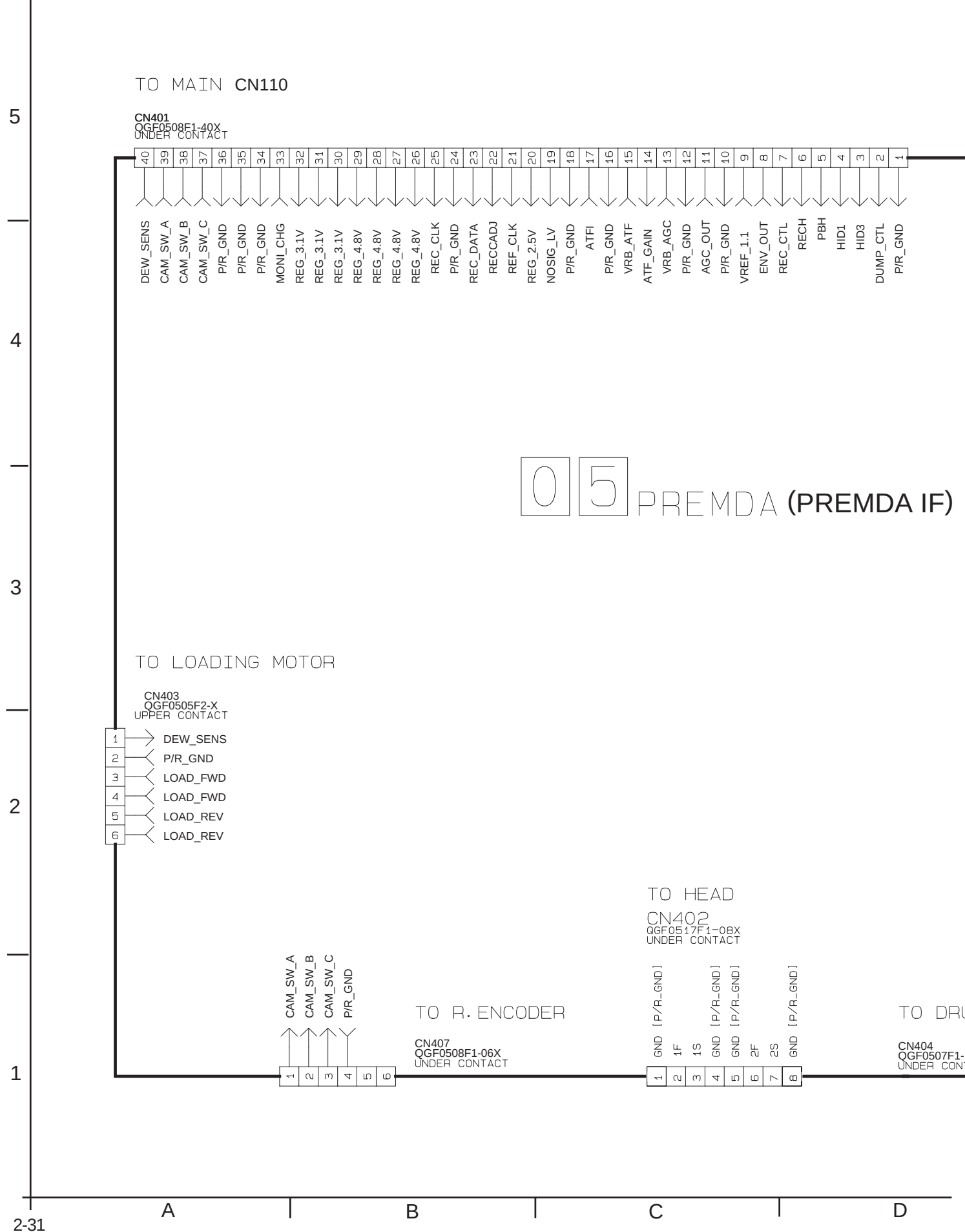
	Q5002	R5005
DSC MODEL	2SC4081/QR/-X	4.7K
NON DSC MODEL	※	※

NOTE: The parts with marked (※) is not used.

■ JACK SCHEMATIC DIAGRAM

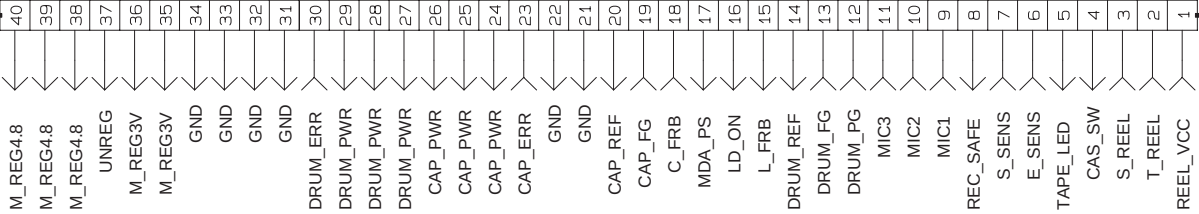


■ PREMDA IF SCHEMATIC DIAGRAM



TO MAIN CN111

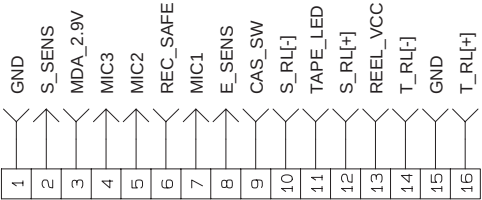
CN408
OGF0508F1-40X
UNDER CONTACT



IF)

TO SENSOR

CN406
OGF0505F2-16X
UPPER CONTACT

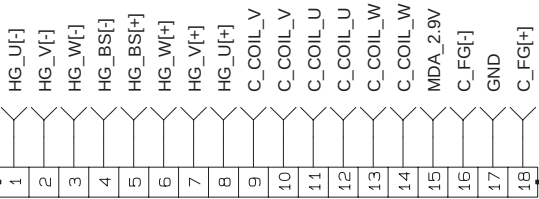
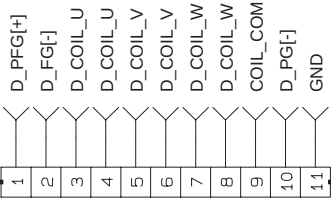


TO CAPSTAN MOTOR

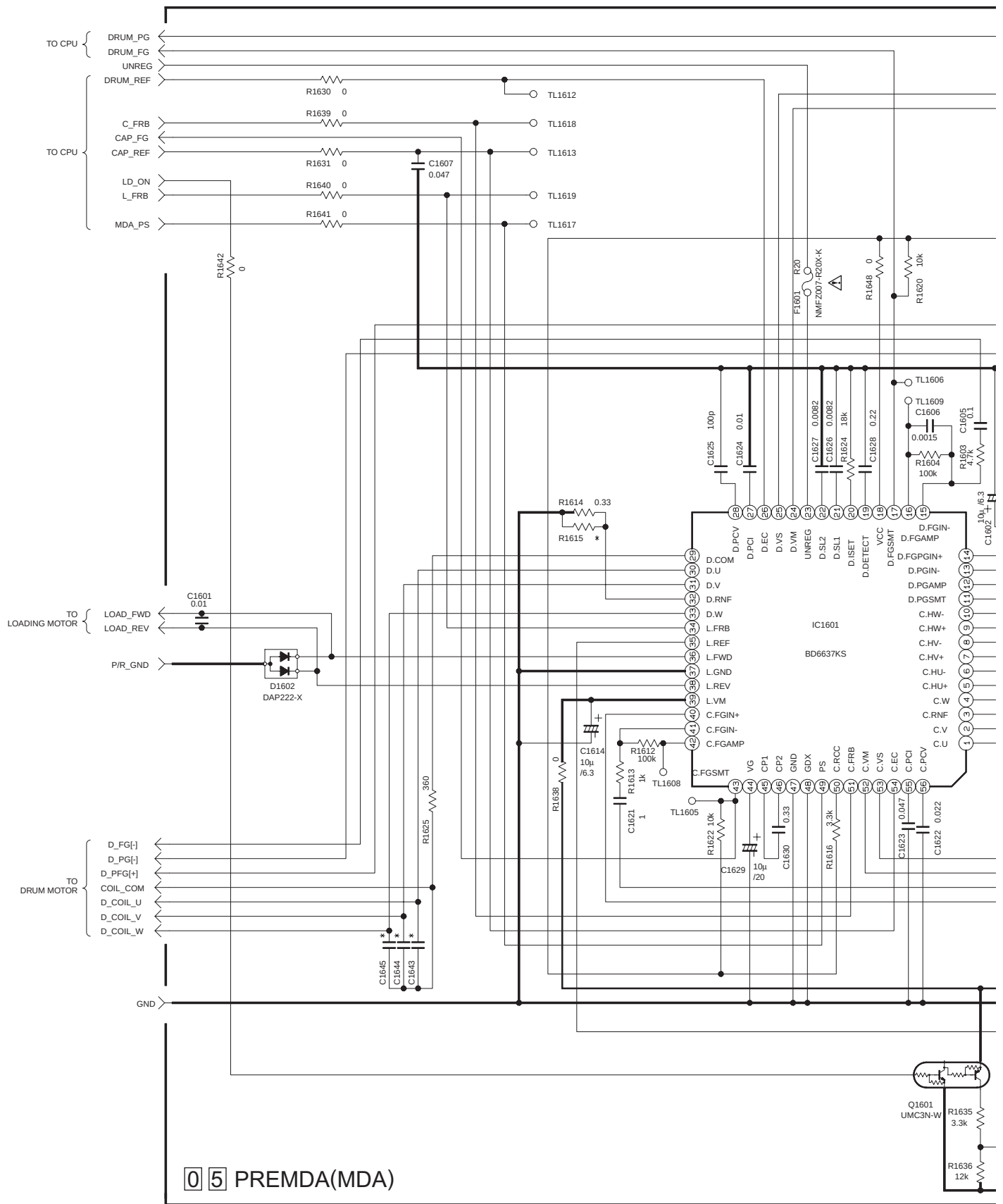
CN405
OGF0507F1-18X
UNDER CONTACT

DRUM MOTOR

04
OGF0507F1-11X
UPPER CONTACT



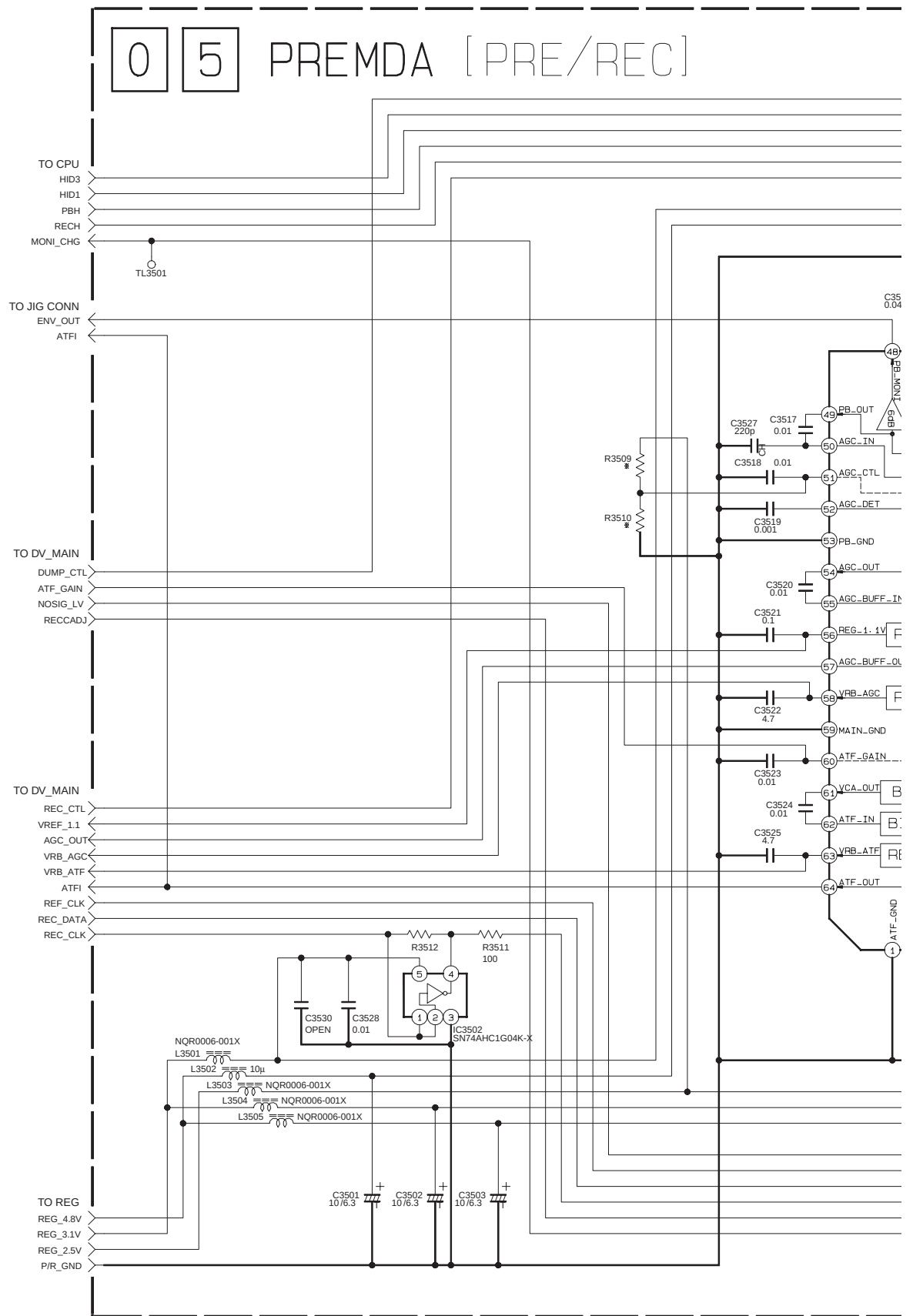
■ MDA SCHEMATIC DIAGRAM



NOTE: The parts with marked (*) is not used.

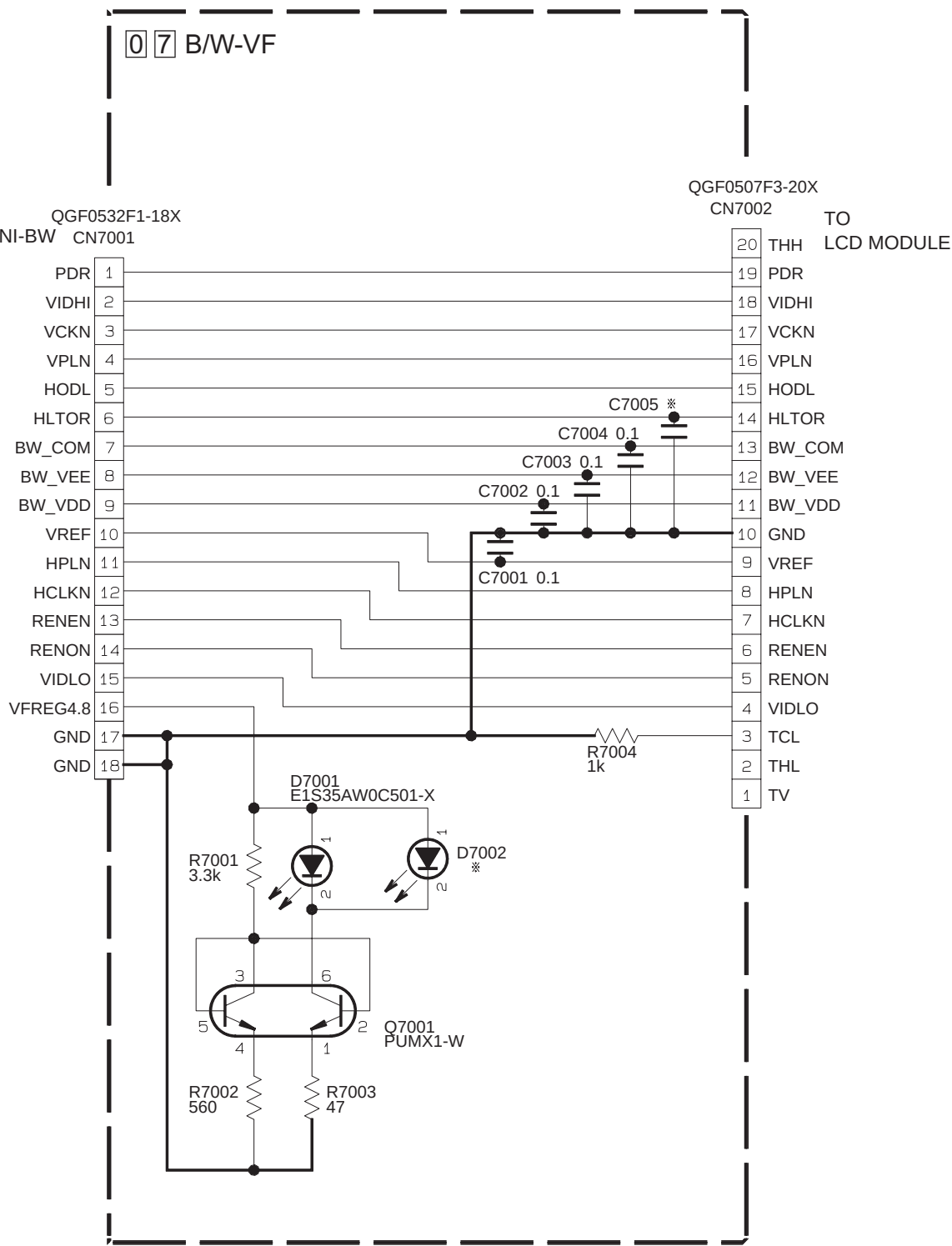


■ PRE/REC SCHEMATIC DIAGRAM



NOTE: The parts with marked (※) is not used.

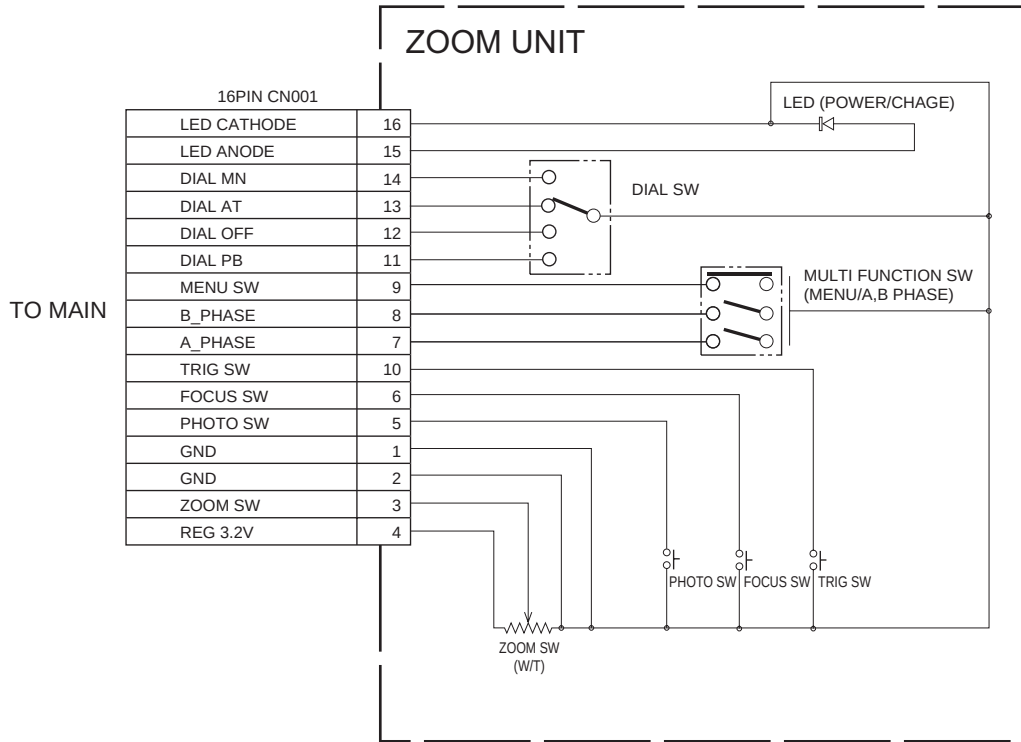
■ B/W-VF SCHEMATIC DIAGRAM



NOTE: The parts with marked (※) is not used.

■ ZOOM UNIT SCHEMATIC DIAGRAM

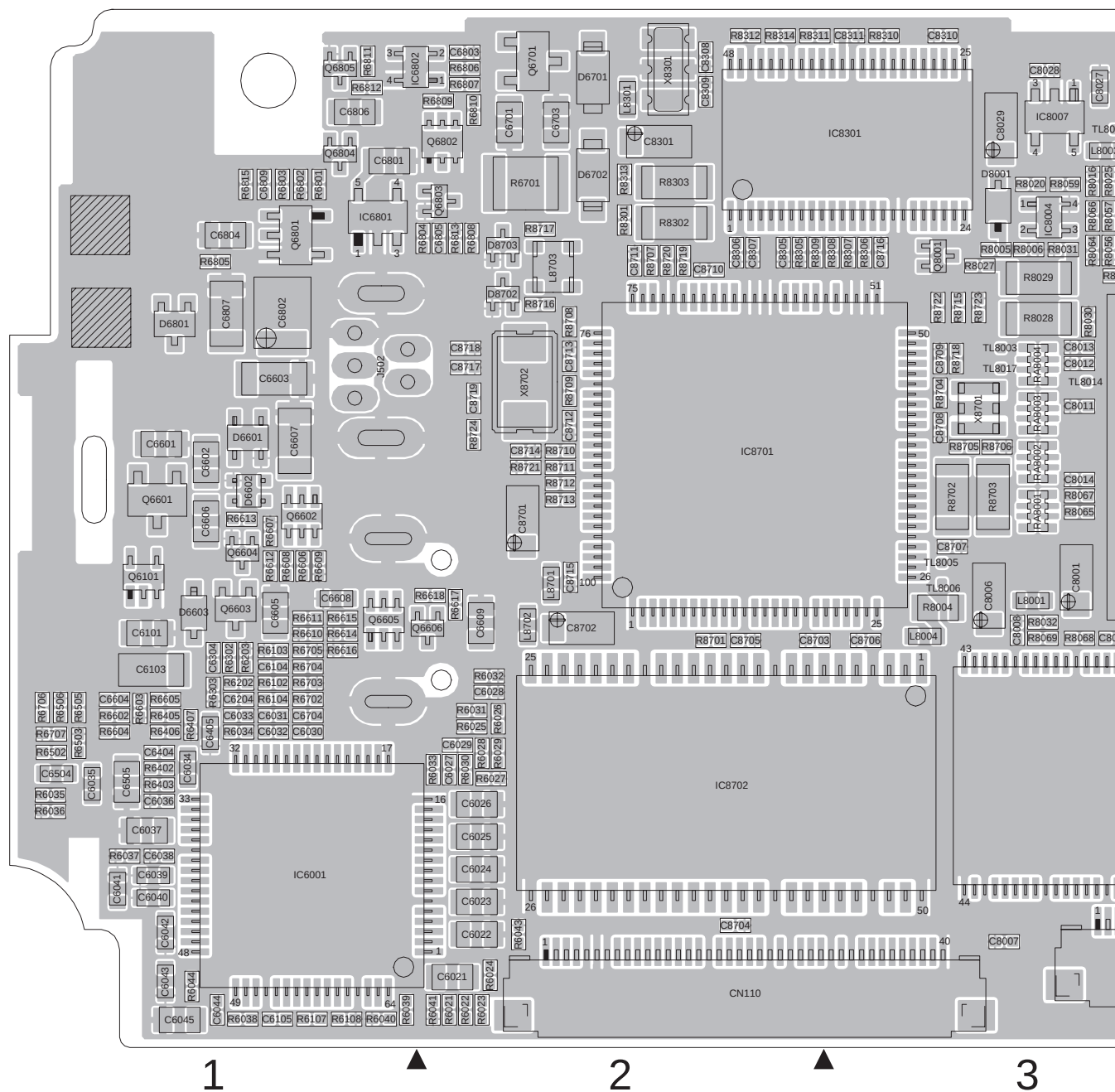
NOTES : • The schematic diagram is only for reference. Avoid replacing individual parts.
Replace the entire unit only.



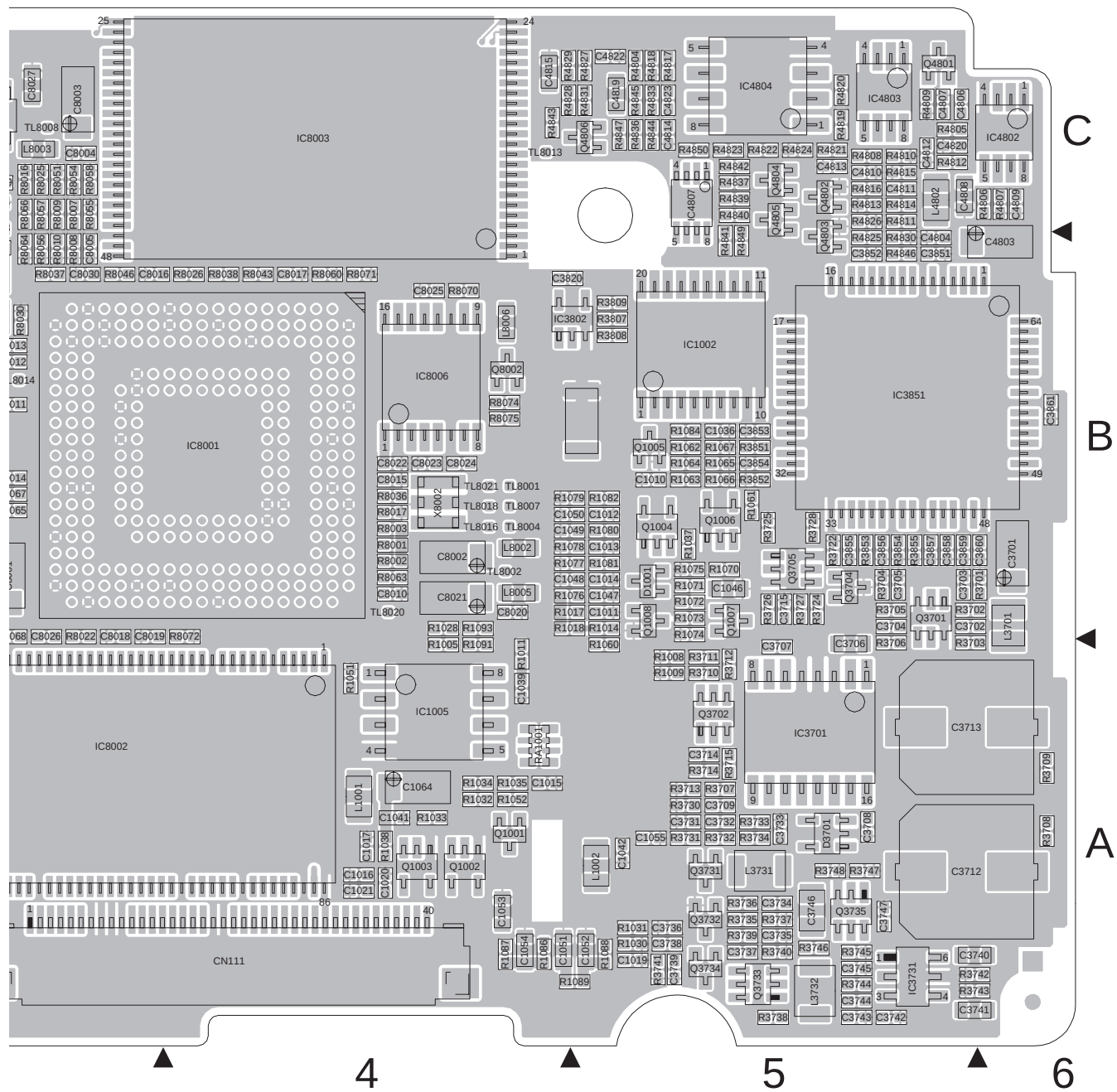
■ MAIN CIRCUIT BOARD

<01> MAIN
YB 10404-01-01

FOIL SIDE(B)

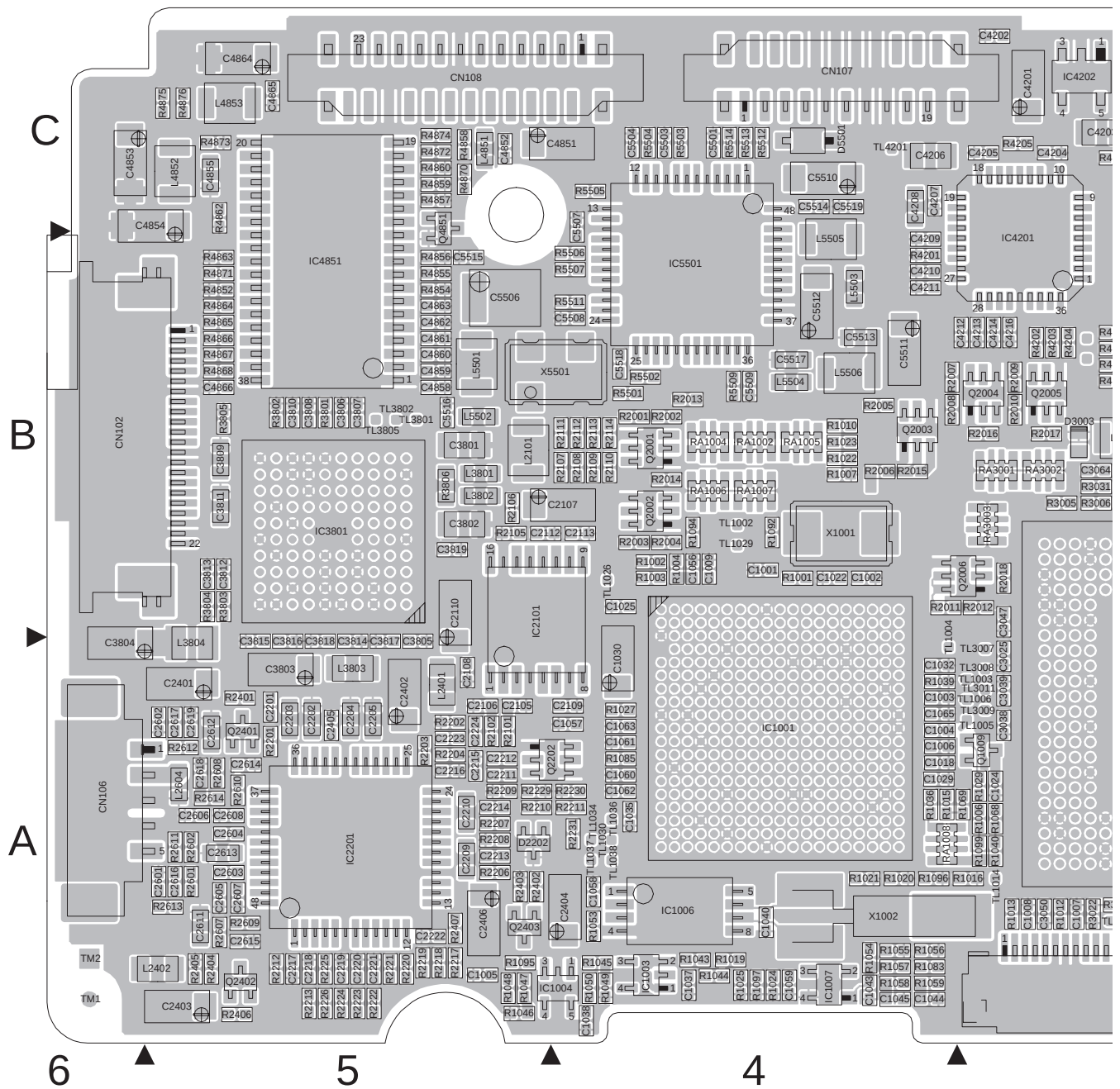


(B)



■ MAIN CIRCUIT BOARD

<01> MAIN
YB 10404-01-01

COMPONENT

COMPONENT PARTS LOCATION GUIDE <MAIN> YB 10404-01-01

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR																					
C1001	A C 4B	C3011	A C 2A	C4214	A C 3B	C6604	B C 1A	IC1006	A C 4A	Q3704	B C 5B	R1084	B C 5B	R3068	A C 2A	R4355	A C 3C	R6309	A C 2A		
C1002	A C 4B	C3012	A C 2A	C4216	A C 3B	C6605	B C 1B	IC1007	A C 4A	Q3705	B C 5B	R1085	A C 4A	R3069	A C 2A	R4356	A C 3C	R6402	B C 1A		
C1003	A C 4A	C3013	A C 2A	C4301	A C 2B	C6606	B C 1B	IC2101	A C 5B	Q3731	B C 5A	R1086	B C 4A	R3071	A C 2A	R4804	B C 5C	R6403	B C 1A		
C1004	A C 4A	C3015	A C 2A	C4302	A C 3C	C6607	B C 1B	IC2201	A C 5A	Q3732	B C 5A	R1087	B C 4A	R3072	A C 2A	R4805	B C 5C	R6405	B C 1A		
C1005	A C 5A	C3017	A C 3B	C4303	A C 3C	C6608	B C 1B	IC3001	A C 3A	Q3733	B C 5A	R1088	B C 5A	R3073	A C 2A	R4806	B C 6C	R6406	B C 1A		
C1006	A C 3A	C3020	A C 2A	C4304	A C 2B	C6609	B C 2B	IC3002	A C 2B	Q3734	B C 5A	R1089	B C 5A	R3074	A C 2A	R4807	B C 6C	R6407	B C 1A		
C1007	A C 4A	C3021	A C 2A	C4305	A C 2C	C6701	B C 2C	IC3005	A C 2B	Q3735	B C 5A	R1091	B C 4A	R3075	A C 2B	R4808	B C 5C	R6502	B C 1A		
C1008	A C 3A	C3022	A C 2B	C4307	A C 3B	C6703	B C 2C	IC3701	B C 5A	Q4801	B C 5C	R1092	A C 4B	R3081	A C 3B	R4809	B C 5C	R6503	B C 1A		
C1009	A C 4B	C3023	A C 2B	C4308	A C 3C	C6704	B C 1A	IC3731	B C 5A	Q4802	B C 5C	R1093	B C 4B	R3082	A C 3B	R4810	B C 5C	R6505	B C 1A		
C1010	B C 5B	C3024	A C 2B	C4309	A C 3C	C6801	B C 1C	IC3801	A C 5B	Q4803	B C 5B	R1094	A C 4B	R3083	A C 3B	R4811	B C 5C	R6506	B C 1A		
C1011	B C 5B	C3025	A C 3A	C4310	A C 2C	C6802	B C 1B	IC3802	B C 5B	Q4804	B C 5C	R1095	A C 5A	R3701	B C 6B	R4812	B C 5C	R6602	B C 1A		
C1012	B C 5B	C3026	A C 2B	C4311	A C 2C	C6803	B C 2C	IC3851	B C 5B	Q4805	B C 5C	R1096	A C 4A	R3702	B C 5B	R4813	B C 5C	R6603	B C 1A		
C1013	B C 5B	C3027	A C 3A	C4312	A C 2B	C6804	B C 1B	IC4201	A C 3B	Q4806	B C 5C	R1097	A C 4A	R3703	B C 5A	R4814	B C 5C	R6604	B C 1A		
C1014	B C 5B	C3028	A C 2A	C4313	A C 2B	C6805	B C 2B	IC4202	A C 3C	Q4851	A C 5C	R1099	A C 3A	R3704	B C 5B	R4815	B C 5C	R6605	B C 1A		
C1015	B C 4A	C3029	A C 3A	C4314	A C 2B	C6806	B C 1C	IC4301	A C 3C	Q6101	B C 1B	R2001	A C 4B	R3705	B C 5B	R4816	B C 5C	R6606	B C 1B		
C1016	B C 4A	C3030	A C 3B	C4315	A C 2B	C6807	B C 1B	IC4302	A C 2B	Q6102	A C 2A	R2002	A C 4B	R3706	B C 5A	R4817	B C 5C	R6607	B C 1B		
C1017	B C 4A	C3031	A C 2A	C4316	A C 3C	C6809	B C 1C	IC4303	A C 2C	Q6201	A C 1B	R2003	A C 4B	R3707	B C 5A	R4818	B C 5C	R6608	B C 1B		
C1018	A C 4A	C3032	A C 3B	C4317	A C 2C	C8001	B C 3B	IC4802	B C 6C	Q6301	A C 1A	R2004	A C 4B	R3708	B C 6A	R4819	B C 5C	R6609	B C 1B		
C1019	B C 5A	C3033	A C 3B	C4318	A C 3B	C8002	B C 4B	IC4803	B C 5C	Q6302	A C 2A	R2005	A C 4B	R3709	B C 6A	R4820	B C 5C	R6610	B C 1B		
C1020	B C 4A	C3036	A C 3B	C4803	B C 6B	C8003	B C 3C	IC4804	B C 5C	Q6303	A C 2A	R2006	A C 4B	R3710	B C 5A	R4821	B C 5C	R6611	B C 1B		
C1021	B C 4A	C3037	A C 3B	C4804	B C 5B	C8004	B C 3C	IC4807	B C 5C	Q6401	A C 1A	R2007	A C 4B	R3711	B C 5A	R4822	B C 5C	R6612	B C 1B		
C1022	A C 4B	C3038	A C 3A	C4806	B C 5C	C8005	B C 3B	IC4851	A C 5B	Q6501	A C 1A	R2008	A C 4B	R3712	B C 5A	R4823	B C 5C	R6613	B C 1B		
C1024	A C 3A	C3039	A C 3A	C4807	B C 5C	C8006	B C 3B	IC5501	A C 4B	Q6601	B C 1B	R2009	A C 3B	R3713	B C 5A	R4824	B C 5C	R6614	B C 1B		
C1025	A C 4B	C3040	A C 3B	C4808	B C 5C	C8007	B C 3A	IC6001	B C 1A	Q6602	B C 1B	R2010	A C 3B	R3714	B C 5A	R4825	B C 5B	R6615	B C 1B		
C1029	A C 4A	C3042	A C 3A	C4809	B C 6C	C8008	B C 3B	IC6801	B C 1C	Q6603	B C 1B	R2011	A C 4B	R3715	B C 5A	R4826	B C 5C	R6616	B C 1A		
C1030	A C 4A	C3043	A C 3B	C4810	B C 5C	C8010	B C 4B	IC6802	B C 2C	Q6604	B C 1B	R2012	A C 3B	R3722	B C 5B	R4827	B C 5C	R6617	B C 1B		
C1032	A C 4A	C3044	A C 2A	C4811	B C 5C	C8011	B C 3B	IC8001	B C 4B	Q6605	B C 1B	R2013	A C 4B	R3723	B C 5B	R4828	B C 5C	R6618	B C 2B		
C1035	A C 4A	C3045	A C 3A	C4812	B C 5C	C8012	B C 3B	IC8002	B C 3A	Q6606	B C 2B	R2014	A C 4B	R3725	B C 5B	R4829	B C 5C	R6619	A C 1B		
C1036	B C 5B	C3046	A C 3A	C4813	B C 5C	C8013	B C 3B	IC8003	B C 4C	Q6701	B C 2C	R2015	A C 4B	R3726	B C 5B	R4830	B C 5B	R6701	B C 2C		
C1037	A C 4A	C3047	A C 3B	C4814	B C 5C	C8014	B C 3B	IC8004	B C 3C	Q6801	B C 1B	R2016	A C 3B	R3727	B C 5B	R4831	B C 5C	R6702	B C 1A		
C1038	A C 4A	C3048	A C 2A	C4815	B C 4C	C8015	B C 4B	IC8006	B C 4B	Q6802	B C 2C	R2017	A C 3B	R3728	B C 5B	R4833	B C 5C	R6703	B C 1A		
C1039	B C 4A	C3049	A C 3A	C4819	B C 5C	C8016	B C 3B	IC8007	B C 3C	Q6803	B C 2C	R2018	A C 3B	R3730	B C 5A	R4836	B C 5C	R6704	B C 1A		
C1040	A C 4A	C3050	A C 3A	C4820	B C 5C	C8017	B C 4B	IC8301	B C 3C	Q6804	B C 1C	R2101	A C 5A	R3731	B C 5A	R4837	B C 5C	R6705	B C 1A		
C1041	B C 4A	C3055	A C 3A	C4822	B C 5C	C8018	B C 3B	IC8701	B C 2B	Q6805	B C 1C	R2102	A C 5A	R3732	B C 5A	R4839	B C 5C	R6706	B C 1A		
C1042	B C 5A	C3056	A C 2B	C4823	B C 5C	C8019	B C 3B	IC8702	B C 2A	Q8001	B C 3B	R2105	A C 5B	R3733	B C 5A	R4840	B C 5C	R6707	B C 1A		
C1043	A C 4A	C3059	A C 2B	C4851	A C 4C	C8020	B C 4B			Q8002	B C 4B	R2106	A C 5B	R3734	B C 5A	R4841	B C 5B	R6801	B C 1C		
C1044	A C 4A	C3060	A C 2B	C4852	A C 5C	C8021	B C 4B	COIL				R2107	A C 4B	R3735	B C 5A	R4842	B C 5C	R6802	B C 1C		
C1045	A C 4A	C3064	A C 3B	C4853	A C 6C	C8022	B C 4B	L1001	B C 4A	RESISTOR		R2108	A C 4B	R3736	B C 5A	R4843	B C 4C	R6803	B C 1C		
C1046	B C 5B	C3066	A C 2B	C4854	A C 5C	C8023	B C 4B	L1002	B C 5A	R1001	A C 4B	R2109	A C 4B	R3737	B C 5A	R4844	B C 5C	R6804	B C 2B		
C1047	B C 5B	C3067	A C 2A	C4855	A C 5C	C8024	B C 4B	L2101	A C 5B	R1002	A C 4B	R2110	A C 4B	R3738	B C 5A	R4845	B C 5C	R6805	B C 1B		
C1048	B C 5B	C3068	A C 2A	C4858	A C 5B	C8025	B C 4B	L2401	A C 5A	R1003	A C 4B	R2111	A C 4B	R3739	B C 5A	R4846	B C 5B	R6806	B C 2C		
C1049	B C 5B	C3069	A C 2A	C4859	A C 5B	C8026	B C 3B	L2402	A C 5A	R1004	A C 4B	R2112	A C 4B	R3740	B C 5A	R4847	B C 5C	R6807	B C 2C		
C1050	B C 5B	C3070	A C 2A	C4860	A C 5B	C8027	B C 3C	L2604	A C 5A	R1005	B C 4A	R2113	A C 4B	R3741	B C 5A	R4849	B C 5B	R6808	B C 2B		
C1051	B C 4A	C3701	B C 6B	C4861	A C 5B	C8028	B C 3C	L3001	A C 2A	R1006	A C 3A	R2114	A C 4B	R3742	B C 6A	R4850	B C 5C	R6809	B C 2C		
C1052	B C 5A	C3702	B C 5B	C4862	A C 5B	C8029	B C 3C	L3002	A C 2B	R1007	A C 4B	R2201	A C 5A	R3743	B C 6A	R4852	A C 5B	R6810	B C 2C		
C1053	B C 4A	C3703	B C 5B	C4863	A C 5B	C8030	B C 3B	L3004	A C 2A	R1008	B C 5A	R2202	A C 5A	R3744	B C 5A	R4854	A C 5B	R6811	B C 1C		
C1054	B C 4A	C3704	B C 5B	C4864	A C 5C	C8031	B C 2C	L3005	A C 2B	R1009	B C 5A	R2203	A C 5A	R3745	B C 5A	R4855	A C 5B	R6812	B C 1C		
C1055	B C 5A	C3705	B C 5B	C4865	A C 5C	C8035	B C 2B	L3007	A C 2B	R1010	A C 4B	R2204	A C 5A	R3746	B C 5A	R4856	A C 5B	R6813	B C 2B		
C1056	A C 4B	C3706	B C 5A	C4866	A C 5B	C8036	B C 2B	L3008	A C 2B	R1011	B C 4A	R2206	A C 5A	R3747	B C 5A	R4857	A C 5C	R6815	B C 1C		
C1057	A C 4A	C3707	B C 5A	C5501	A C 4C	C8037	B C 2B	L3012	A C 2A	R1012	A C 3A	R2207	A C 5A	R3748	B C 5A	R4858	A C 5C	R8001	B C 4B		
C1058	A C 4A	C3708	B C 5A	C5503	A C 4C	C8038	B C 2C	L3014	A C 2B	R1013	A C 3A										

COMPONENT PARTS LOCATION GUIDE <PREMDA> YB 10405-01-01

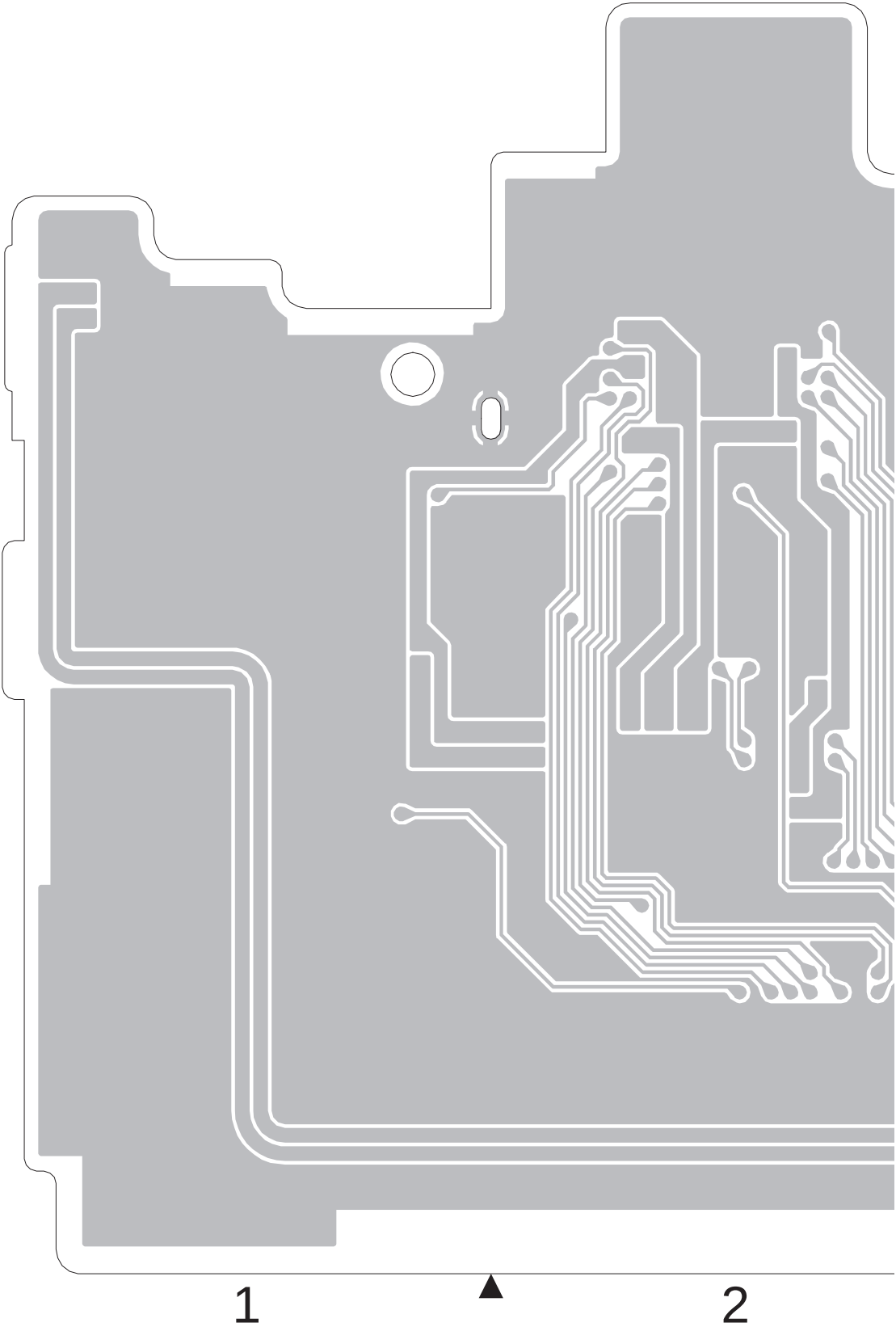
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R8711	B C 2B
R8712	B C 2B
R8713	B C 2B
R8715	B C 3B
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R8717	B C 2C
R8718	B C 3B
R8719	B C 2B
R8720	B C 2B
R8721	B C 2B
R8722	B C 3B
R8723	B C 3B
R8724	B C 2B
RA1001	B C 4A
RA1002	A C 4B
RA1004	A C 4B
RA1005	A C 4B
RA1006	A C 4B
RA1007	A C 4B
RA1008	A C 4A
RA3001	A C 3B
RA3002	A C 3B
RA3003	A C 3B
RA3004	A C 2A
RA3005	A C 2A
RA8001	B C 3B
RA8002	B C 3B
RA8003	B C 3B
RA8004	B C 3B
OTHER	
J501	A C 1B
J502	A D 1B
TL1001	A C 3A
TL1002	A C 4B
TL1003	A C 3A
TL1004	A C 4A
TL1005	A C 3A
TL1006	A C 3A
TL1014	A C 3A
TL1021	A C 2B
TL1022	A C 2B
TL1023	A C 2B
TL1024	A C 2B
TL1025	A C 2A
TL1026	A C 4B
TL1029	A C 4B
TL1030	A C 4A
TL1034	A C 4A
TL1036	A C 4A
TL1037	A C 4A
TL1038	A C 4A
TL3001	A C 2B
TL3006	A C 2B
TL3007	A C 3A
TL3008	A C 3A
TL3009	A C 3A
TL3011	A C 3A
TL3801	A C 5B
TL3802	A C 5B
TL3805	A C 5B
TL4201	A C 4C
TL4301	A C 3B
TL4302	A C 3B
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TL4313	A C 2B
TL4314	A C 2B
TL4315	A C 2B
TL8001	B C 4B
TL8002	B C 4B
TL8003	B C 3B
TL8004	B C 4B
TL8005	B C 3B
TL8006	B C 3B
TL8007	B C 4B
TL8008	B C 3C
TL8013	B C 4C
TL8014	B C 3B
TL8016	B C 4B
TL8017	B C 3B
TL8018	B C 4B
TL8020	B C 4B
TL8021	B C 4B
TM1	A C 6A
TM2	A C 6A
TM5	A C 1A
TP110	B C 5B
X1001	A C 4B
X1002	A C 4A
X3002	A C 3B
X5501	A C 4B
X8002	B C 4B
X8301	B C 2C
X8701	B C 3B
X8702	B C 2B

REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR			
C1601	A C 1B	R1629	A C 3B
C1602	A C 3B	R1630	A C 4B
C1603	A C 3B	R1631	A C 4B
C1605	A C 3B	R1632	A C 3B
C1606	A C 3B	R1633	A C 3B
C1607	A C 4B	R1634	A C 3B
C1614	A C 3C	R1635	A C 4B
C1615	A C 3B	R1636	A C 4B
C1616	A C 3B	R1637	A C 4B
C1617	A C 3B	R1638	A C 3C
C1618	A C 3B	R1639	A C 4B
C1619	A C 3B	R1640	A C 4B
C1620	A C 3B	R1641	A C 4B
C1621	A C 3C	R1642	A C 4B
C1622	A C 4B	R1648	A C 3B
C1623	A C 4B	R1701	A C 3A
C1624	A C 3B	R1702	A C 3A
C1625	A C 3B	R1703	A C 4A
C1626	A C 3B	R1704	A C 3A
C1627	A C 3B	R1705	A C 3A
C1628	A C 3B	R1706	A C 3A
C1629	A C 4B	R1707	A C 4A
C1630	A C 3B	R1708	A C 4A
C1631	A C 3A	R1710	A C 4A
C1632	A C 3A	R1711	A C 4A
C1633	A C 4B	R1712	A C 4A
C1641	A C 3A	R3501	A C 2B
C1643	A C 3C	R3502	A C 2B
C1644	A C 3C	R3503	A C 2C
C1645	A C 3C	R3504	A C 2C
C1701	A C 3A	R3505	A C 2C
C1702	A C 4A	R3506	A C 2C
C3501	A C 2B	R3507	A C 2C
C3502	A C 2B	R3508	A C 2C
C3503	A C 2B	R3509	A C 2B
C3504	A C 2B	R3510	A C 2B
C3505	A C 2B	R3511	A C 1B
C3506	A C 2B	R3512	A C 1B
C3507	A C 2B		
C3508	A C 2C	OTHER	
C3509	A C 2B	TL1601	A C 3A
C3510	A C 2B	TL1602	A C 3A
C3511	A C 2C	TL1605	A C 3B
C3512	A C 2B	TL1606	A C 3A
C3513	A C 2B	TL1607	A C 3B
C3514	A C 2B	TL1608	A C 3C
C3515	A C 2B	TL1609	A C 3B
C3516	A C 2B	TL1610	A C 3B
C3517	A C 2B	TL1612	A C 4B
C3518	A C 2B	TL1613	A C 3B
C3519	A C 2B	TL1617	A C 4B
C3520	A C 2B	TL1618	A C 4B
C3521	A C 2B	TL1619	A C 4B
C3522	A C 2B	TL1620	A C 3A
C3523	A C 2B	TL3501	A C 2A
C3524	A C 2B	TM2	A C 4C
C3525	A C 2B	TM4	A C 4C
C3526	A C 2B	ZP1-1	A C 2B
C3527	A C 2B	ZP3-3	A C 1B
C3528	A C 1B	ZP3-5	A C 1B
C3530	A C 1B	ZP4-1	A C 3C
CONNECTOR			
CN401	A C 2A	ZP4-2	A C 3A
CN402	A C 2C	ZP4-3	A C 3C
CN403	A C 1B	ZP4-5	A C 3C
CN404	A C 3C	ZP4-7	A C 3C
CN405	A C 3C	ZP4-9	A C 3C
CN406	A C 3B	ZP5-1	A C 3C
CN407	A C 1B	ZP5-2	A C 3C
CN408	A C 3A	ZP5-3	A C 3C
DIODE			
D1602	A C 1B	ZP5-4	A C 3C
D1603	A C 4B	ZP5-5	A C 4C
D1604	A C 3A	ZP5-6	A C 3C
FUSE			
F1601	A C 3A	ZP5-7	A C 3C
F1602	A C 3A	ZP5-8	A C 3C
IC			
IC1601	A C 3B	ZP5-9	A C 4C
IC1701	A C 3A	ZP6-1	A C 4B
IC1702	A C 4A	ZP6-3	A C 3A
IC3501	A C 2B	ZP7-4	A C 1B
IC3502	A C 1B	ZP4-10	A C 3C
COIL			
L3501	A C 2A	ZP4-11	A C 3C
L3502	A C 2A	ZP5-11	A C 4C
L3503	A C 2A	ZP5-13	A C 4C
L3504	A C 2A	ZP5-16	A C 3C
L3505	A C 2A	ZP5-17	A C 4C
TRANSISTOR			
Q1601	A C 4B	ZP5-18	A C 4C
RESISTOR			
R1601	A C 3B	ZP6-10	A C 3B
R1602	A C 3B	ZP6-12	A C 3B
R1603	A C 3B	ZP6-14	A C 4B
R1604	A C 3B	ZP6-16	A C 4B
R1610	A C 3C	ZP8-21	A C 4B
R1611	A C 4C		
R1612	A C 3B		
R1613	A C 3B		
R1614	A C 3C		
R1615	A C 3C		
R1616	A C 3B		
R1617	A C 3B		
R1618	A C 3B		
R1620	A C 3B		
R1621	A C 3B		
R1622	A C 3B		
R1624	A C 3B		
R1625	A C 3C		

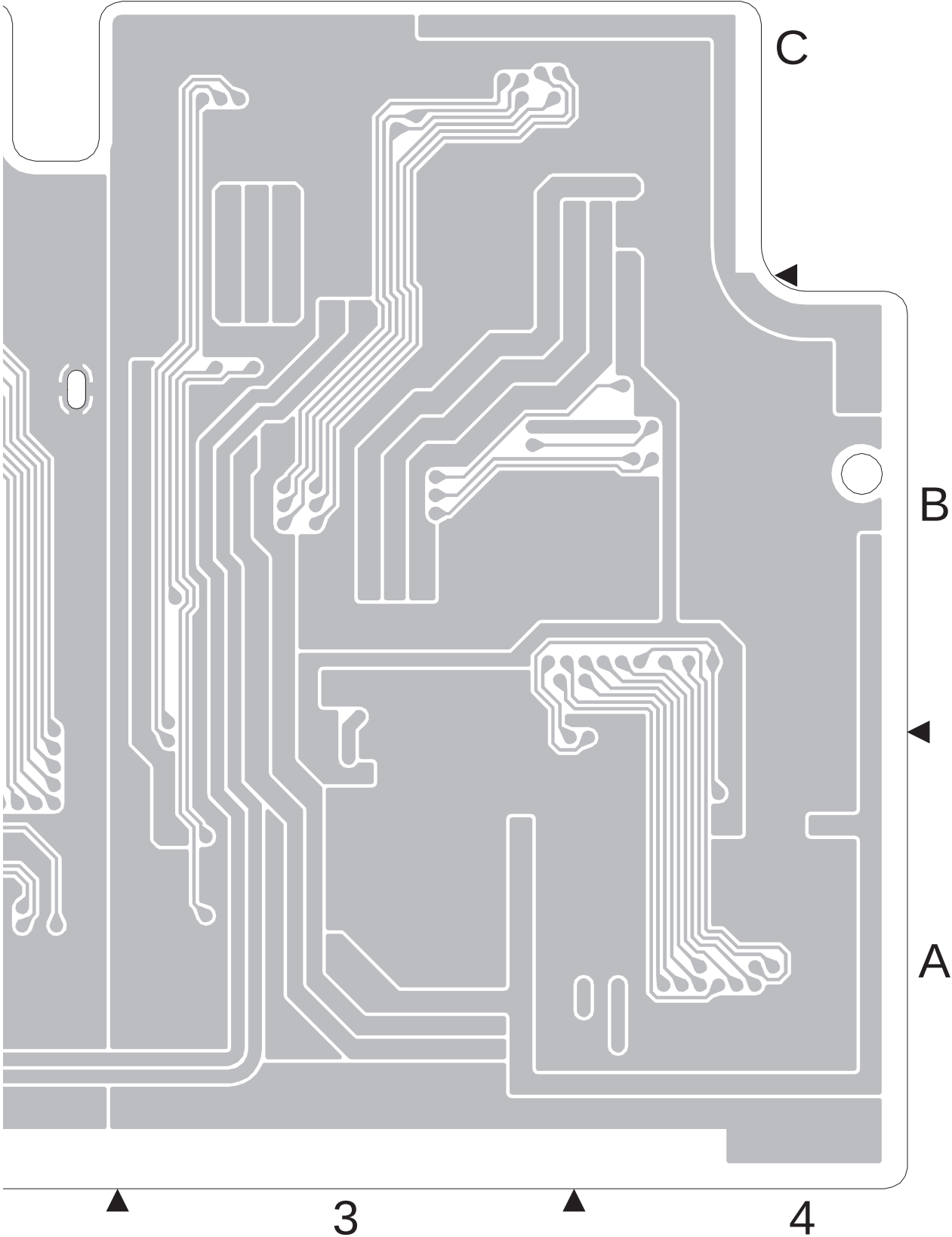
■ PREMDA CIRCUIT BOARD

<05> PREMDA
YB 10405-01-01

FOIL SIDE(B)

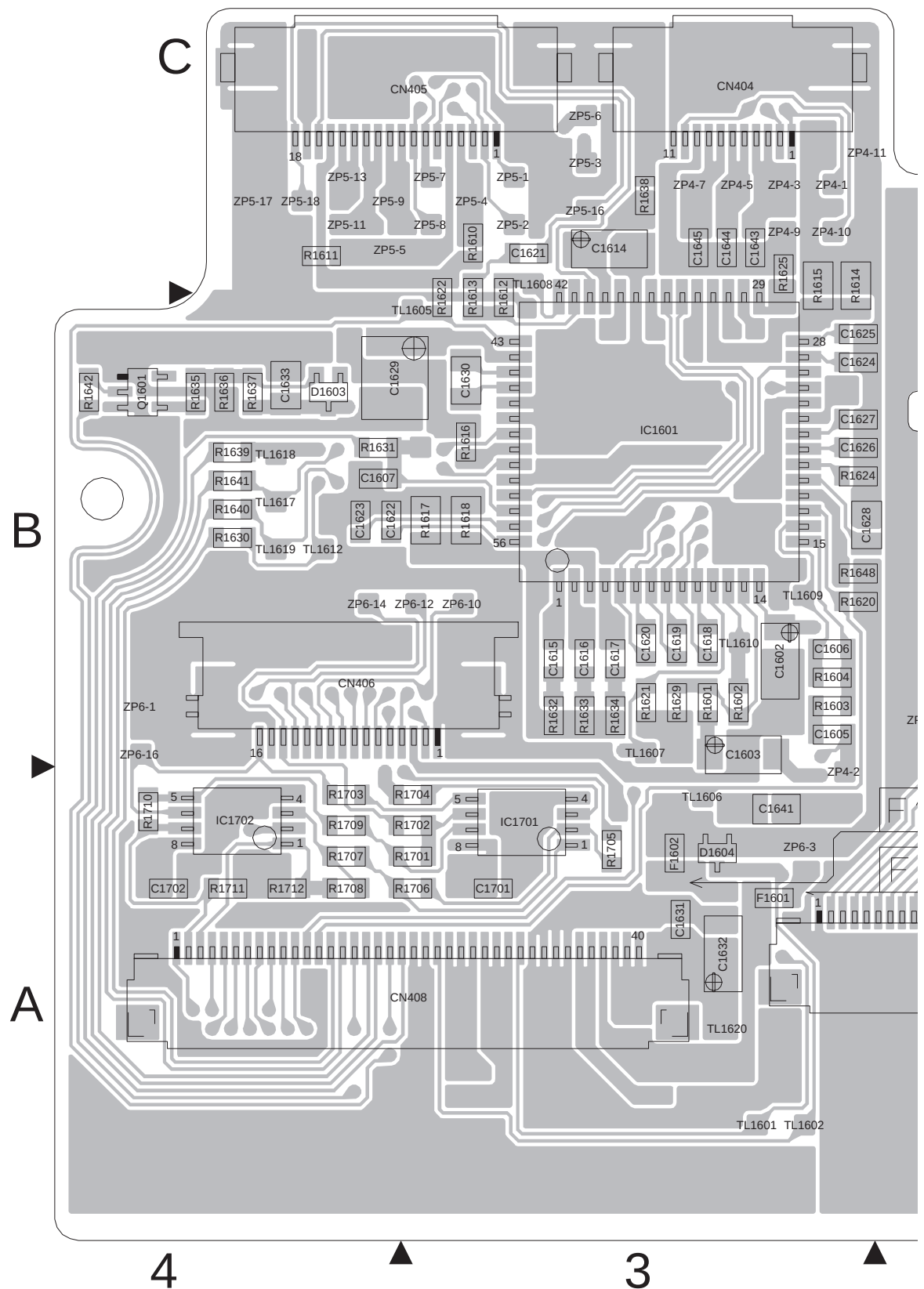


(B)



■ PREMDA CIRCUIT BOARD

<05> PREMDA
YB 10405-01-01

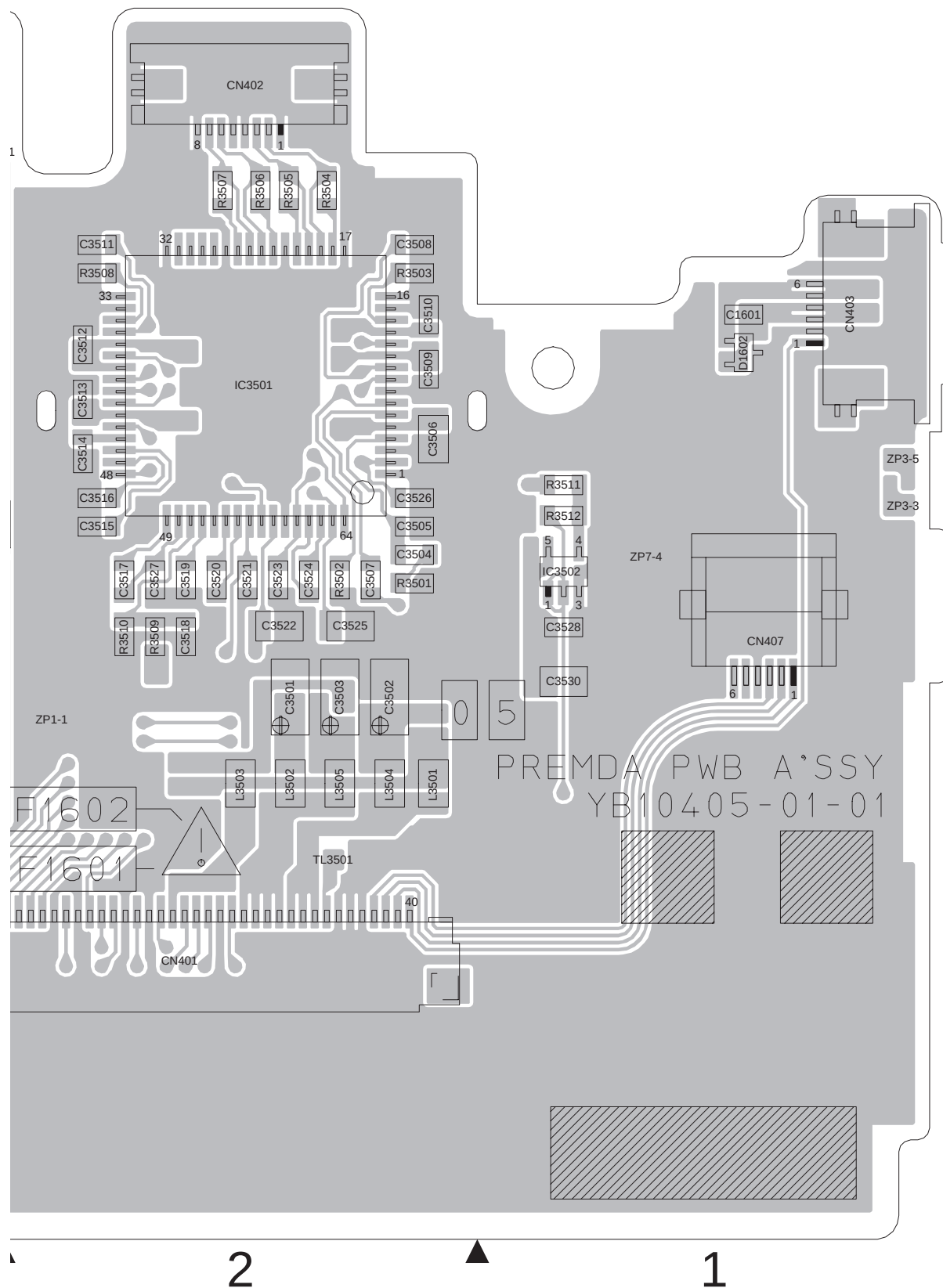
COMPONENT



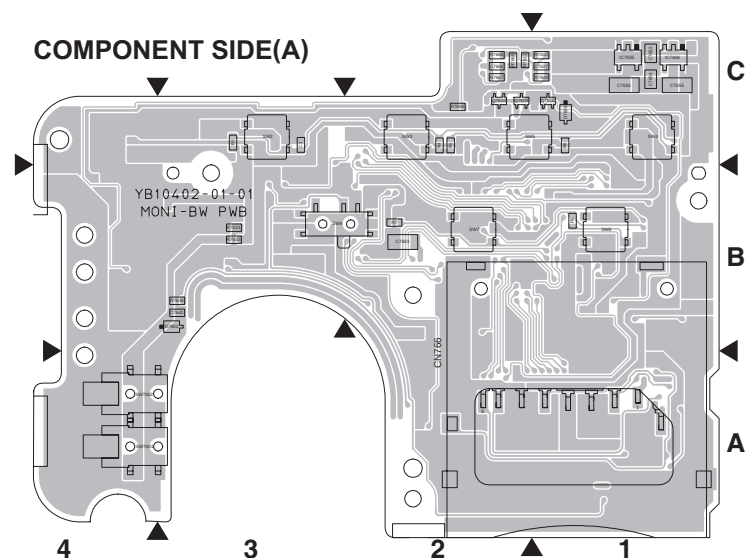
• CAUTION:
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD, REPLACE ONLY WITH SAME
TYPE AND RATED FUSE(S).

• ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDE,
REPLACER LES FUSIBLES PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.

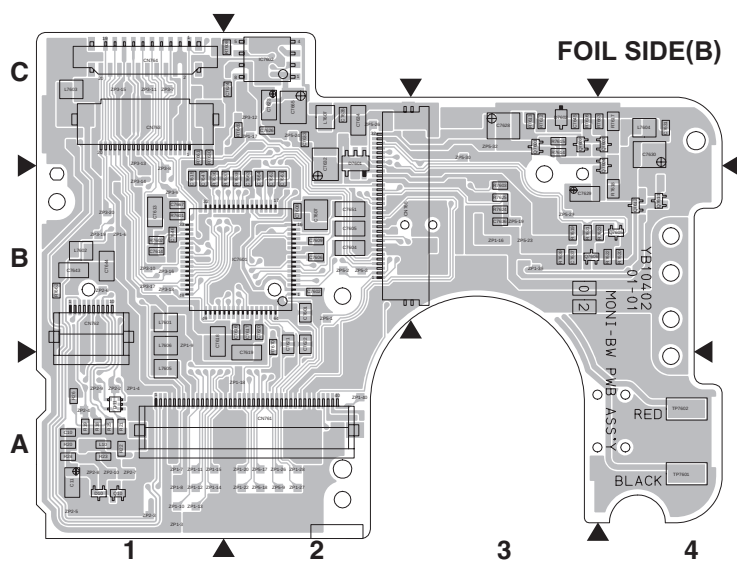
INT SIDE(A)



■ MONI-BW CIRCUIT BOARD



<02> MONI-BW
YB 10402-01-01



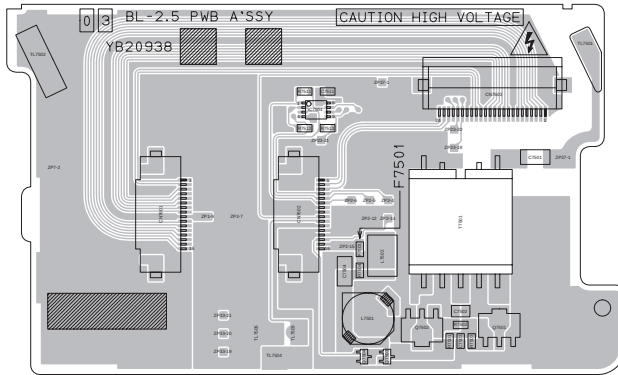
<02> MONI-BW
YB 10402-01-01

COMPONENT PARTS LOCATION GUIDE <MONI-BW> YB10402-01-01

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR				COIL				RESISTOR				OTHER	
C1	A C 3C	C7627	A C 1C	L10	B C 1A	R3	A C 3C	R7615	B C 3C	R7669	A C 2C	ZP2-6	B C 1B
C10	B C 1A	C7628	B C 3C	L7601	B C 1B	R4	A C 2C	R7616	B C 3C	R7670	B C 2B	ZP2-7	B C 1A
C11	B C 1A	C7629	B C 3B	L7602	B C 1B	R5	A C 2C	R7617	B C 4C			ZP2-8	B C 1A
C7601	B C 2B	C7631	B C 4C	L7603	B C 1C	R6	A C 1C	R7618	B C 4B			ZP2-9	B C 1A
C7602	B C 2B	C7632	B C 2C	L7604	B C 4C	R7	A C 2B	R7619	B C 3B	SW2	A C 3C	ZP3-7	B C 1C
C7603	A C 2B	C7633	B C 2C	CN762	B C 1B	R8	A C 1B	R7620	B C 4B	SW3	A C 2C	ZP3-8	B C 1B
C7604	B C 2B	C7634	B C 2C	CN763	B C 1C	R18	B C 1A	R7621	B C 3B	SW4	A C 1C	ZP3-9	B C 1B
C7605	B C 2B	C7635	B C 2C	CN764	B C 1B	R19	B C 1A	R7622	B C 4B	SW5	A C 2C	ZP5-1	B C 2B
C7606	B C 2B	C7636	B C 3B	CN765	B C 2B	R20	B C 1A	R7623	B C 4B	SW6	A C 3B	ZP5-2	B C 2B
C7607	B C 2B	C7637	B C 3B	CN766	A C 1A	R21	B C 1A	R7624	B C 3B	SW7	A C 2B	ZP5-3	B C 2B
C7608	B C 2B	C7641	A C 3B			R22	B C 1A	R7625	B C 3B	SW8	A C 1B	ZP5-9	B C 2A
C7609	B C 2B	C7643	B C 1B	TRANSISTOR				R7630	B C 1C	SW7601	A C 4A	ZP1-10	B C 1A
C7613	B C 1B	C7644	B C 1B	Q10	B C 1A	R23	B C 1A	R7631	A C 3B	SW7602	A C 4A	ZP1-11	B C 1A
C7614	B C 1B	C7645	B C 3C	Q7601	B C 3C	R24	B C 1A	R7633	A C 3B	TM5	A C 4A	ZP1-12	B C 1A
C7615	B C 1B	C7646	B C 1B	Q7602	B C 3C	R25	B C 1A	R7634	A C 3B	TP7601	B C 4A	ZP1-13	B C 1A
C7616	B C 2B	C7647	B C 1B	Q7603	B C 4C	R26	B C 1A	R7636	B C 1B	TP7602	B C 4A	ZP1-14	B C 1A
C7617	B C 2B	C7651	B C 2B	Q7604	B C 4C	R28	B C 1A	R7637	B C 2B			ZP1-15	B C 1A
C7618	B C 1B	C7652	A C 1C	Q7605	B C 4B	R7601	B C 1B	R7638	B C 2B	ZP1-3	B C 1A	ZP1-16	B C 3B
C7619	B C 2B	C7653	A C 1C	Q7606	B C 4B	R7602	B C 1B	R7639	B C 3B	ZP1-6	B C 1B	ZP1-17	B C 2C
C7620	B C 2B	C7654	A C 1C	Q7608	A C 1C	R7603	B C 3B	R7661	B C 1C	ZP1-7	B C 1A	ZP1-18	B C 2A
C7621	B C 2B	C7655	A C 1C	Q7609	A C 2C	R7608	B C 2C	R7662	B C 1B	ZP1-8	B C 1A	ZP1-20	B C 1A
C7622	B C 2B	C7661	B C 2B	Q7610	A C 2C	R7609	A C 1C	R7663	B C 4C	ZP1-9	B C 1B	ZP1-22	B C 2A
C7623	B C 2C	C7662	B C 2B	Q7611	B C 4B	R7610	A C 1C	R7665	B C 2C	ZP2-2	B C 1A	ZP1-26	B C 2A
C7624	B C 2C	C7663	B C 2B	Q7612	B C 4B	R7611	A C 2C	R7666	A C 2C	ZP2-3	B C 1A	ZP1-27	B C 2A
C7626	B C 2C	C7664	B C 2B			R7612	B C 3C	R7667	A C 2C	ZP2-4	B C 1A	ZP1-28	B C 2A
						R7613	B C 3C	R7668	A C 2C	ZP2-5	B C 1A	ZP1-36	B C 3B
						R7614	B C 3C						

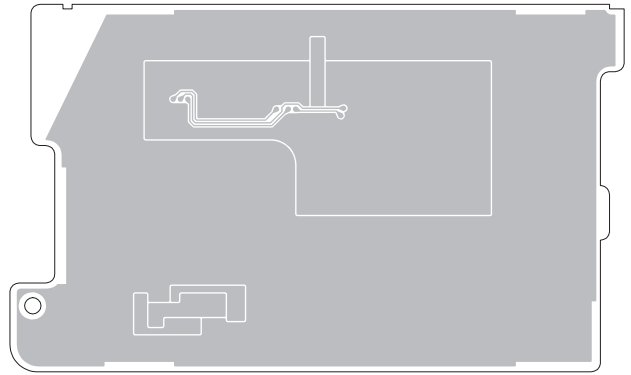
■ BL-2.5 CIRCUIT BOARD

COMPONENT SIDE(A)



<03> BL-2.5
YB 20938

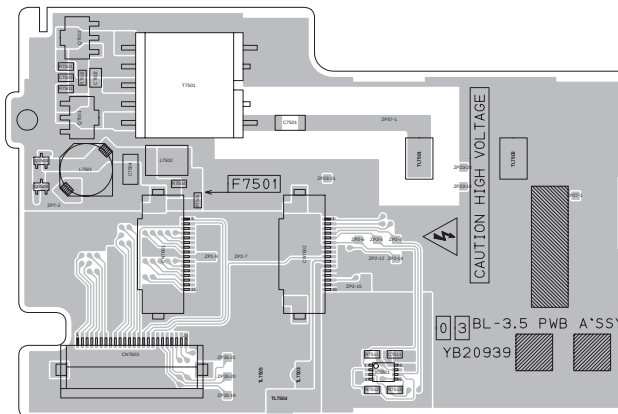
FOIL SIDE(B)



<03> BL-2.5
YB 20938

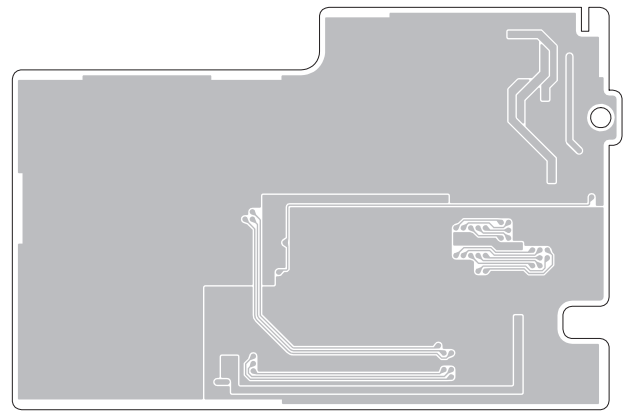
■ BL-3.5 CIRCUIT BOARD

COMPONENT SIDE(A)



<03> BL-3.5
YB 20939

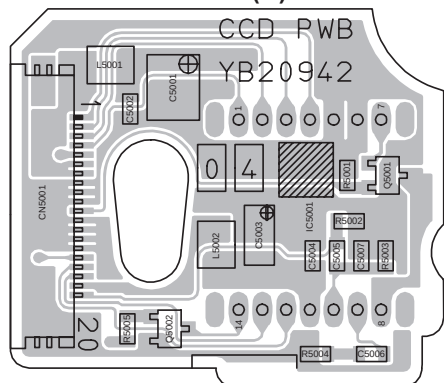
FOIL SIDE(B)



<03> BL-3.5
YB 20939

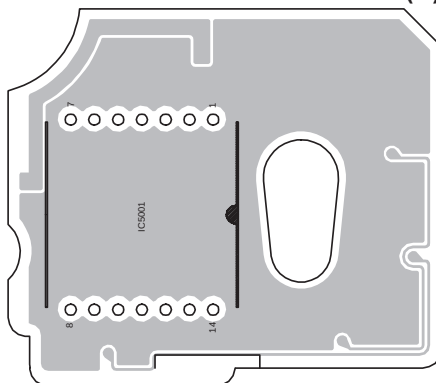
■ CCD CIRCUIT BOARD (GR-D30/GR-D70)

COMPONENT SIDE(A)



<04> CCD
YB 20942

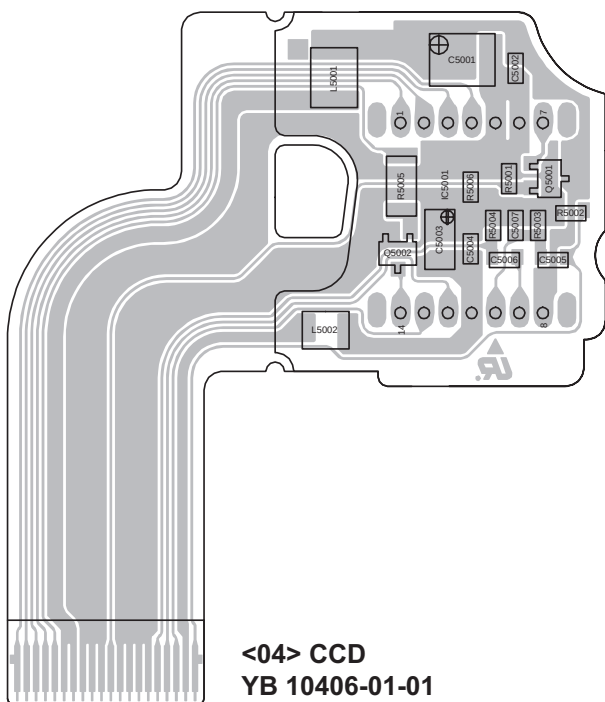
FOIL SIDE(B)



<04> CCD
YB 20942

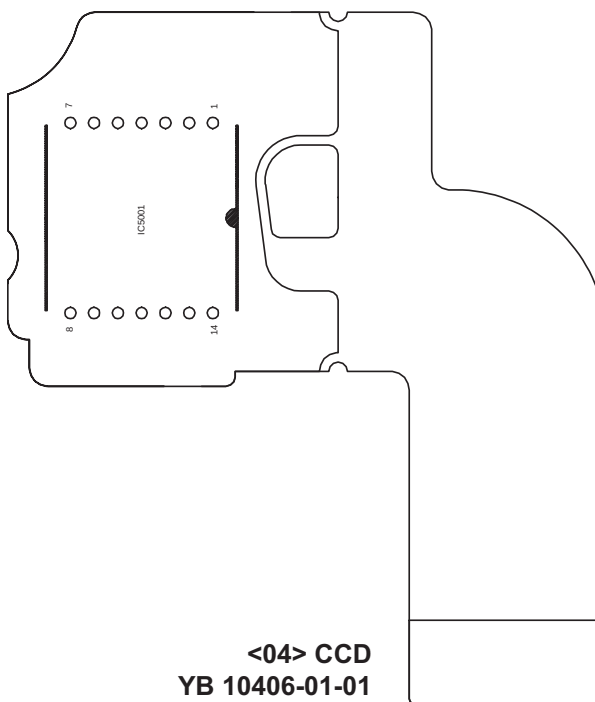
■ CCD CIRCUIT BOARD(GR-D31/GR-D90/GR-D91)

COMPONENT SIDE(A)



<04> CCD
YB 10406-01-01

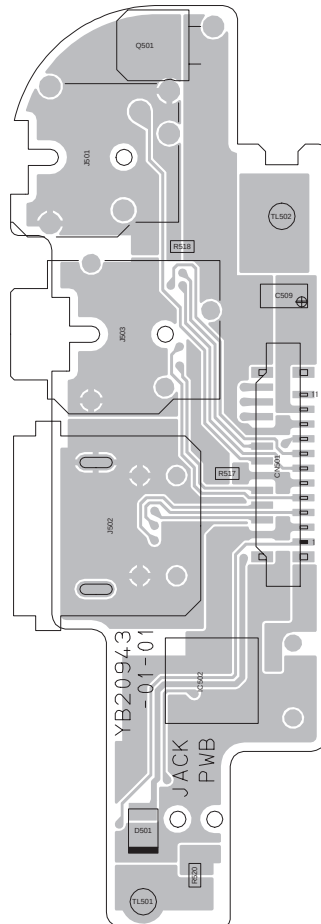
FOIL SIDE(B)



<04> CCD
YB 10406-01-01

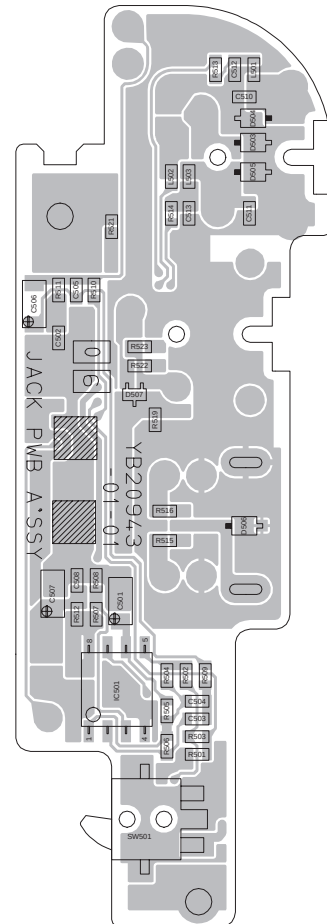
■ JACK CIRCUIT BOARD

COMPONENT SIDE(A)



<06> JACK
YB 20943-01-01

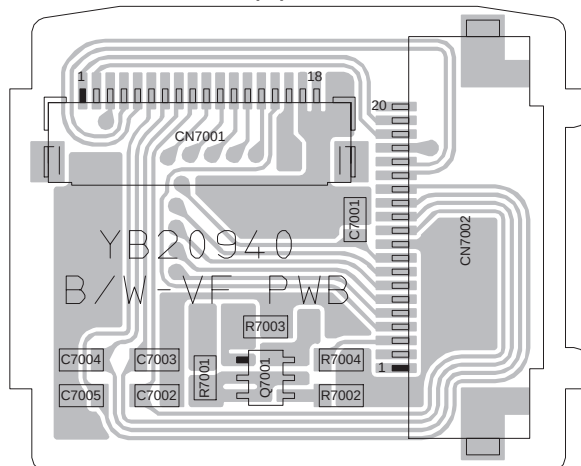
FOIL SIDE(B)



<06> JACK
YB 20943-01-01

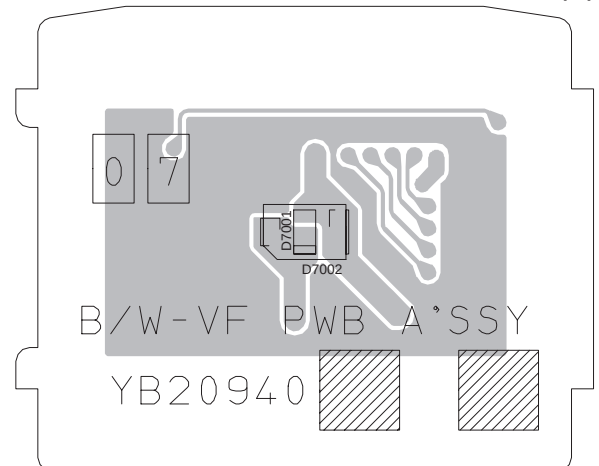
■ B/W-VF CIRCUIT BOARD

COMPONENT SIDE(A)



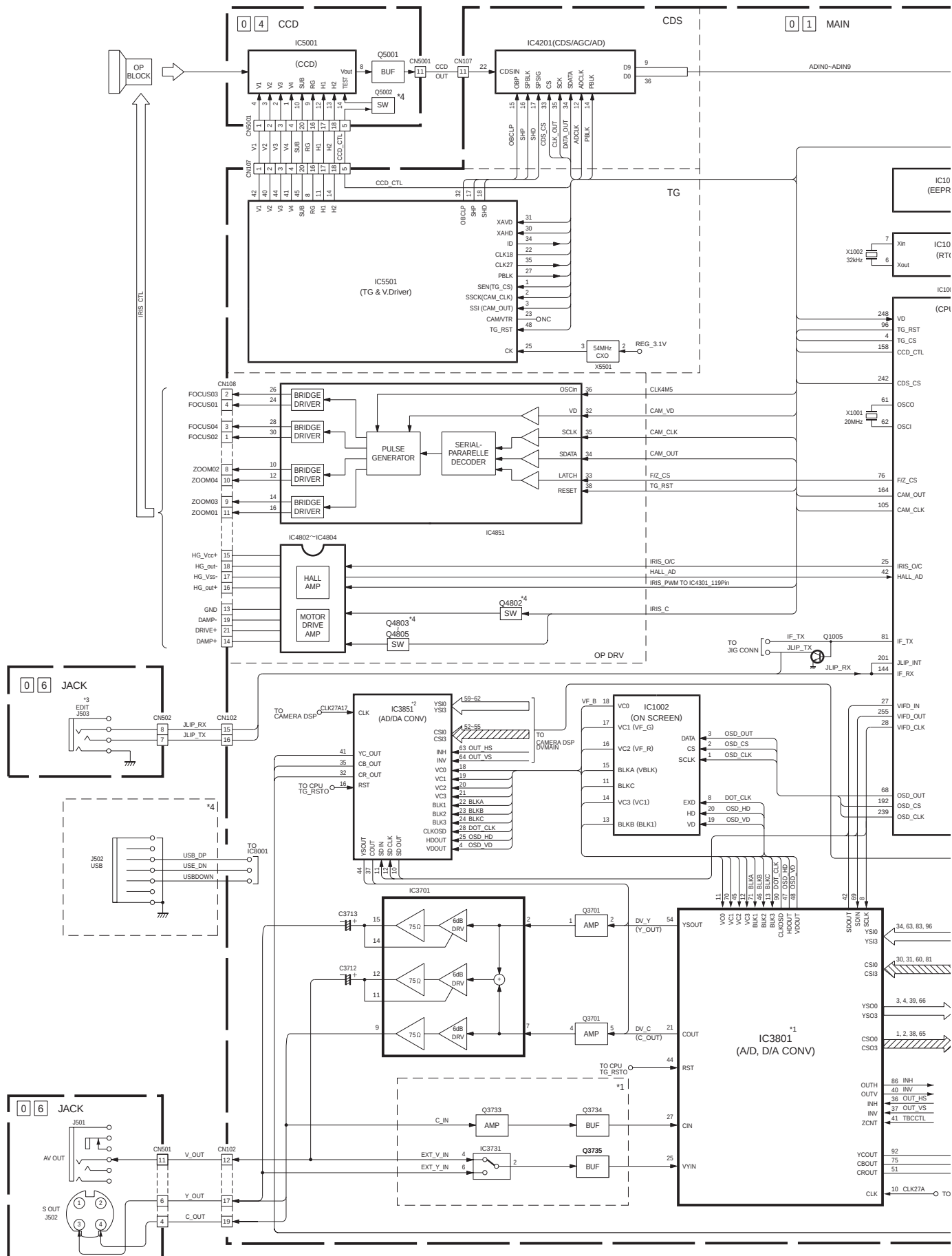
<07> B/W-VF
YB 20940

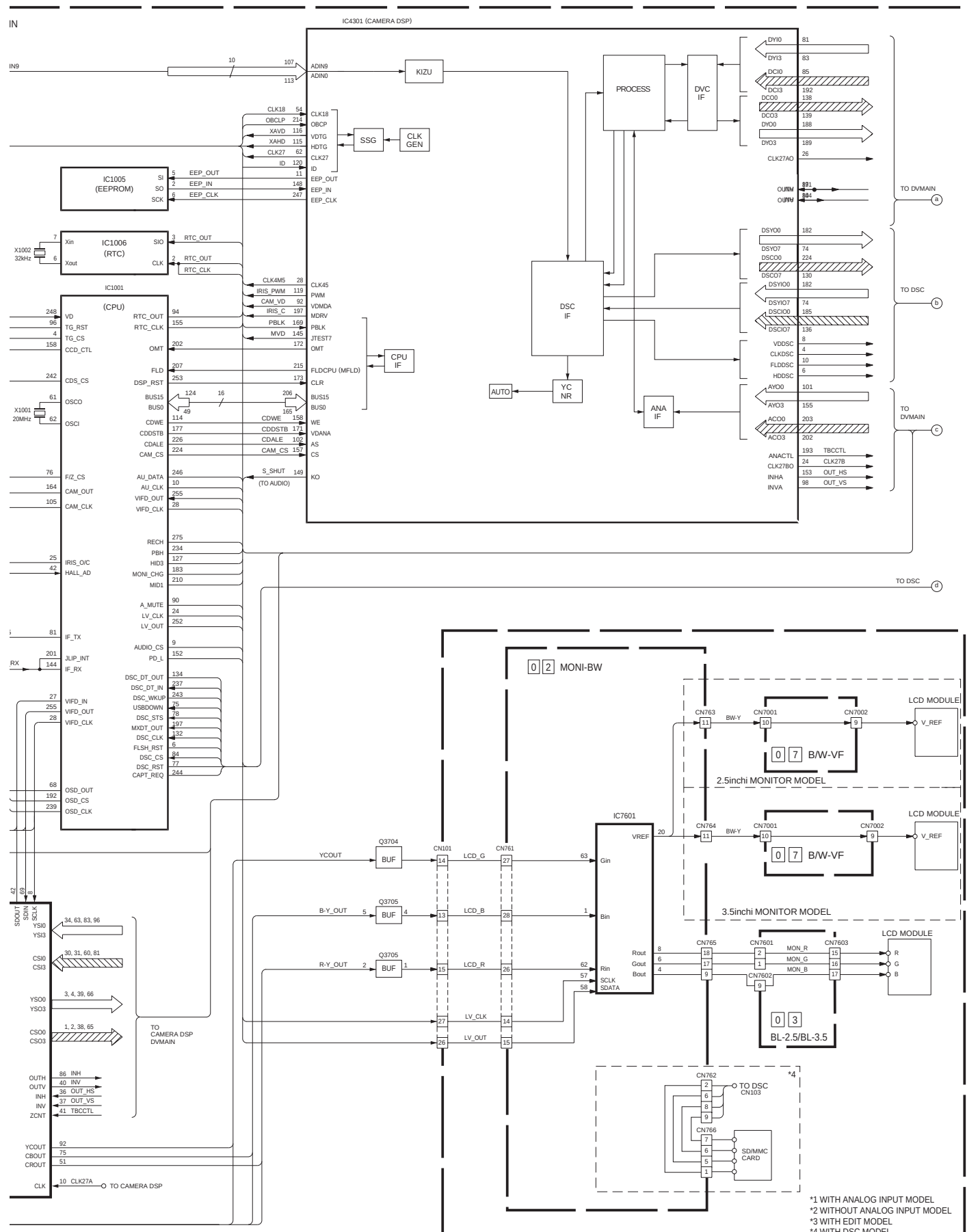
FOIL SIDE(B)



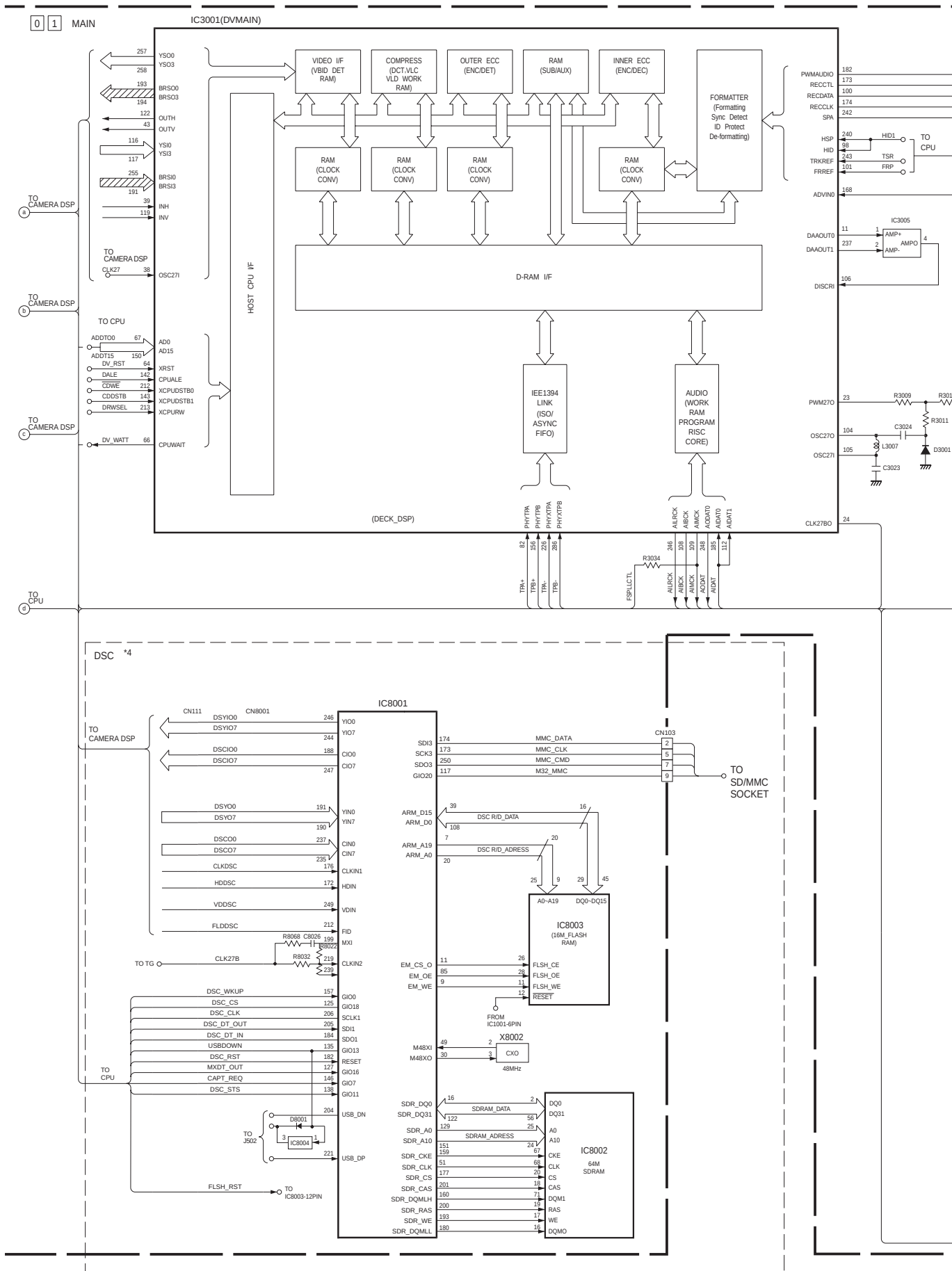
<07> B/W-VF
YB 20940

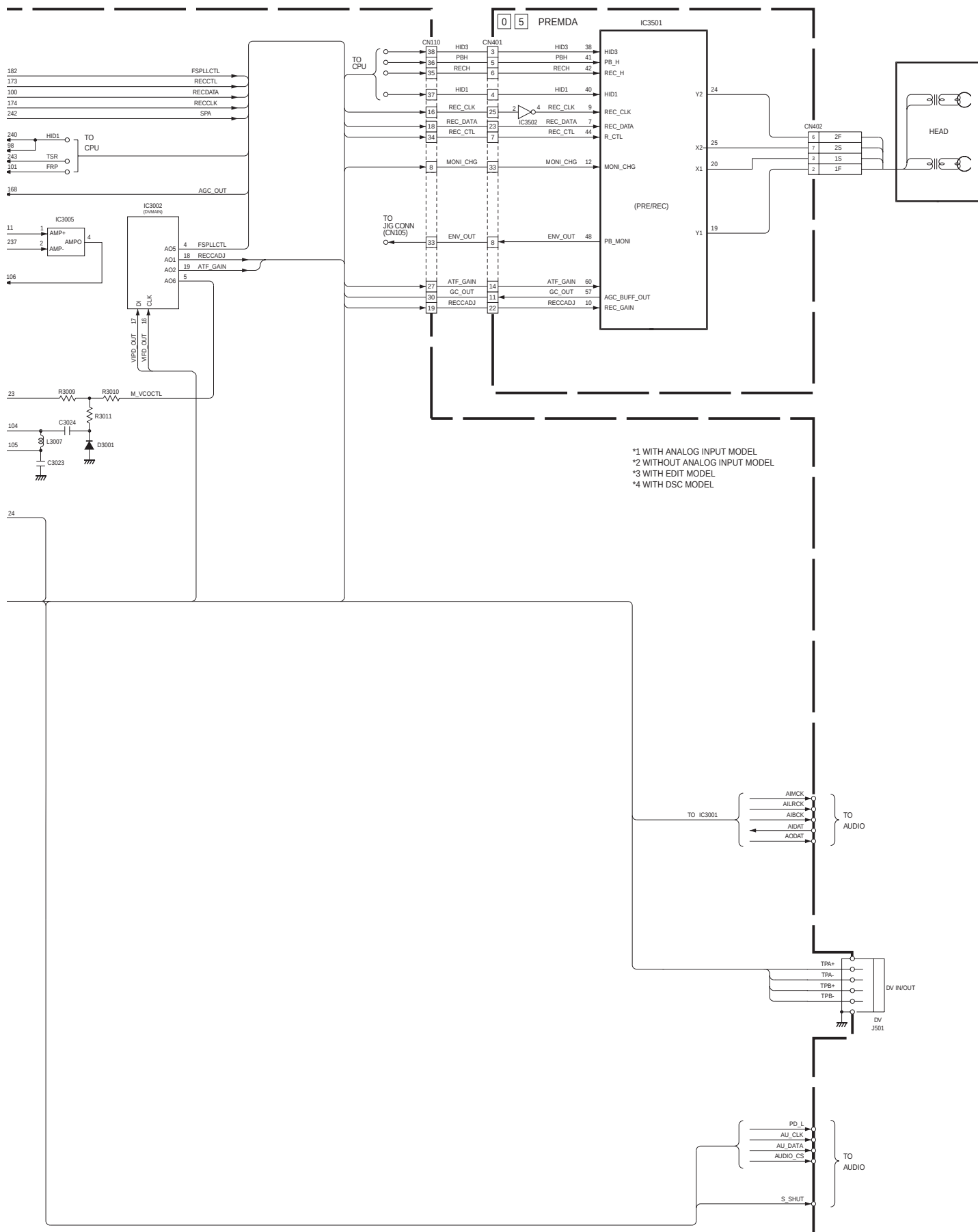
■ VIDEO BLOCK DIAGRAM (1/2)



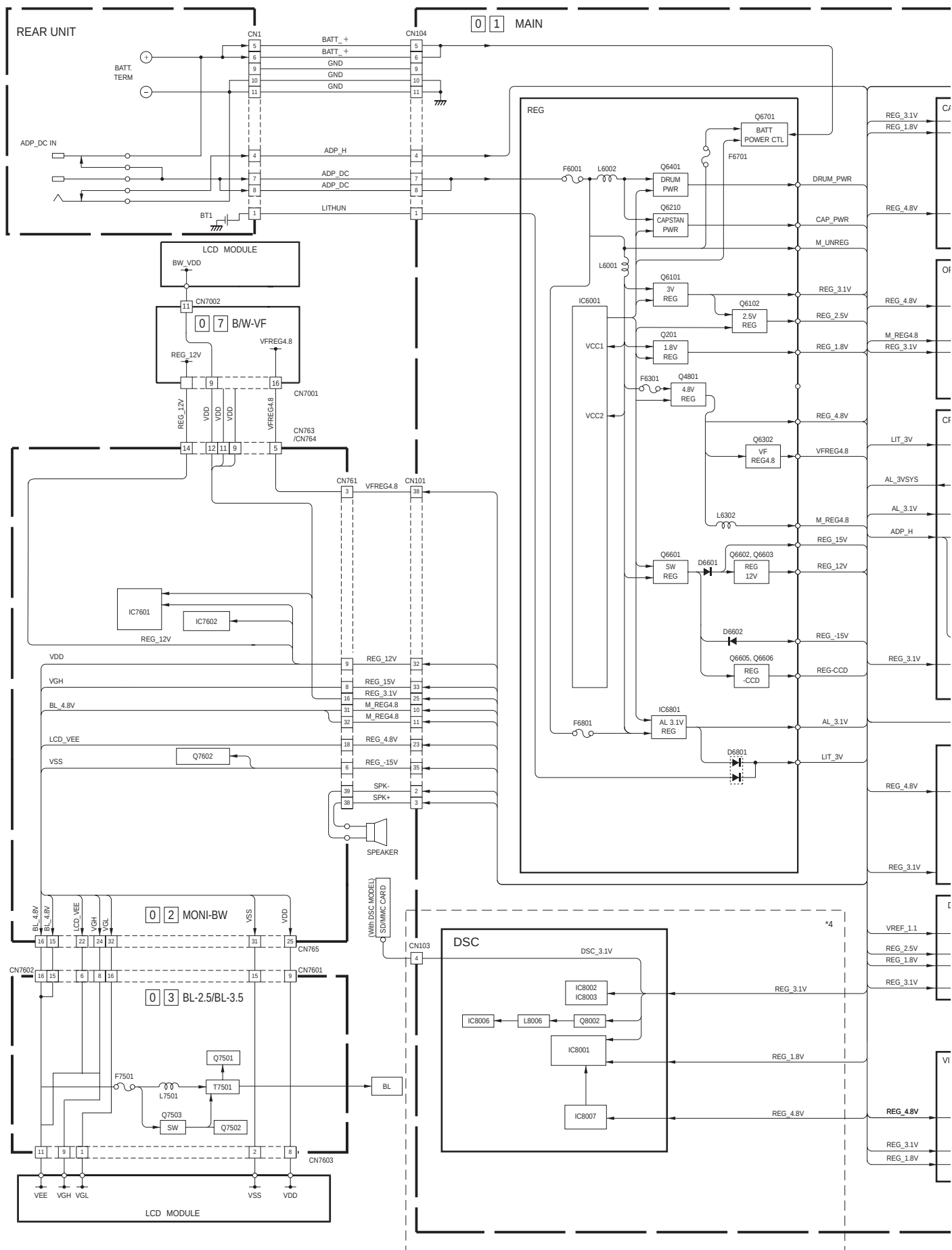


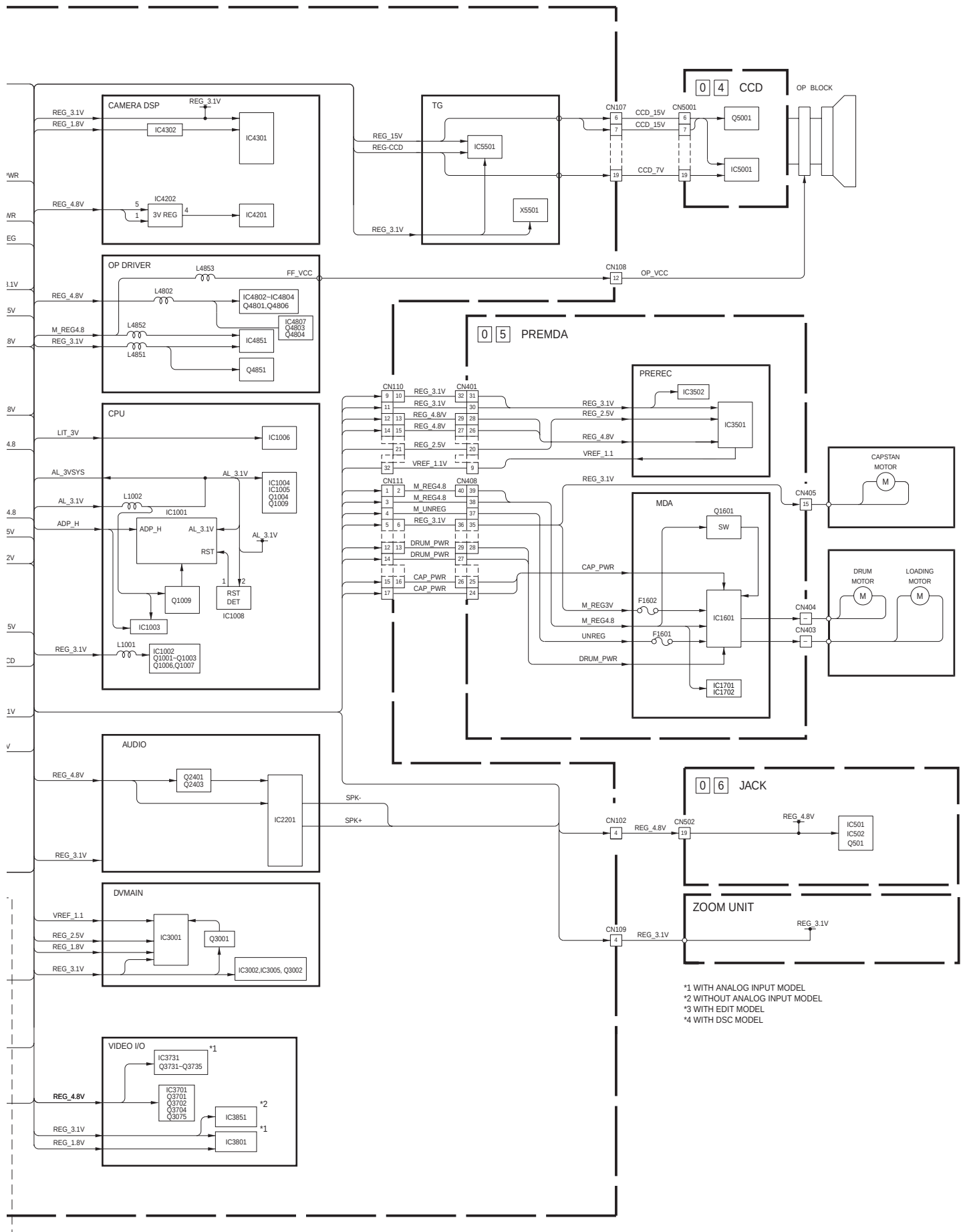
■ VIDEO BLOCK DIAGRAM (2/2)





■ POWER SYSTEM BLOCK DIAGRAM





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PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

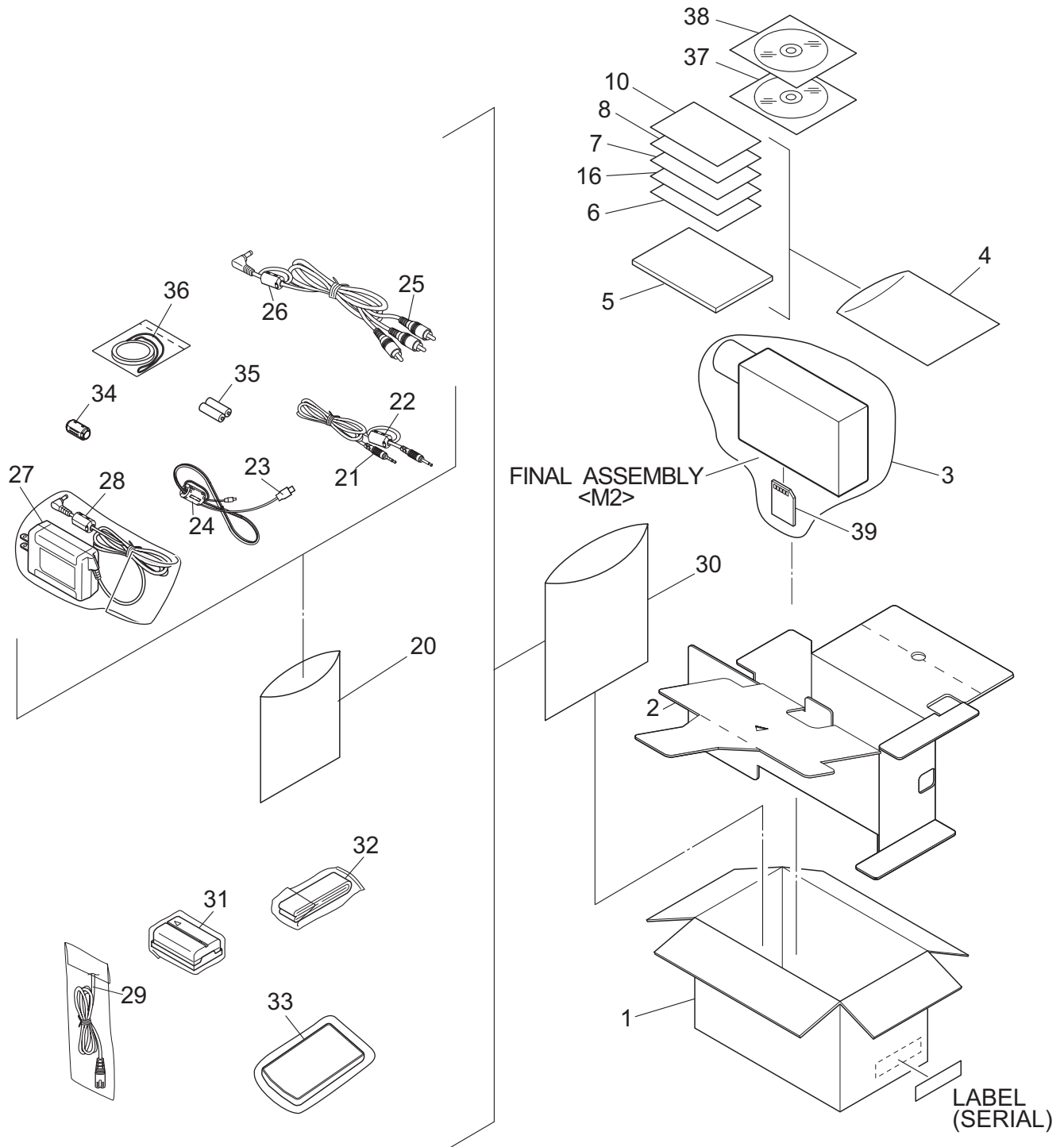
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

1. EXPLODED VIEW

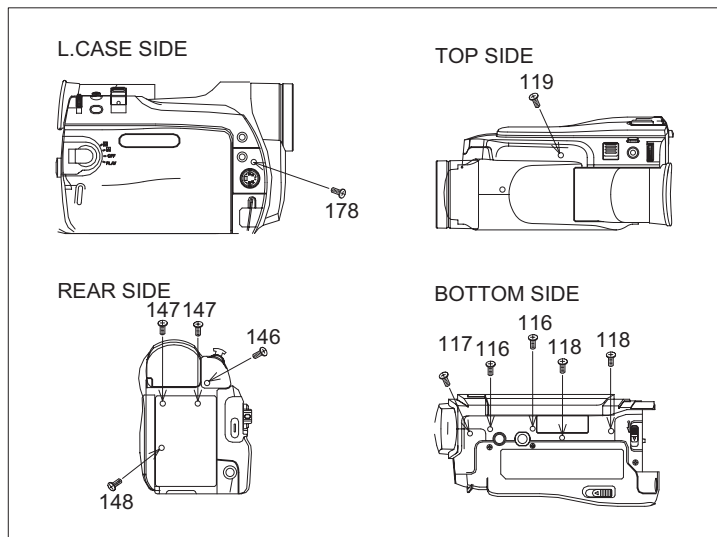
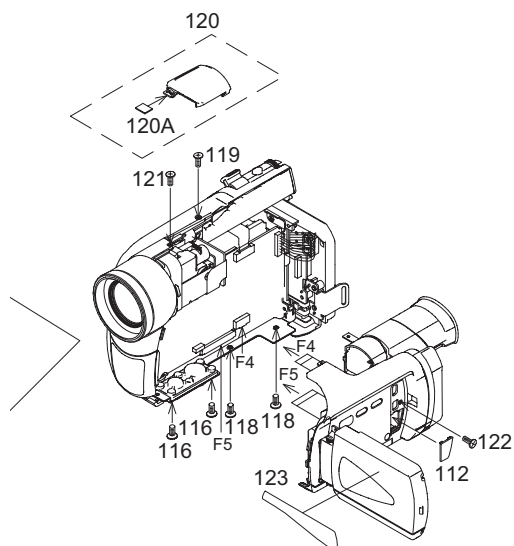
1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.

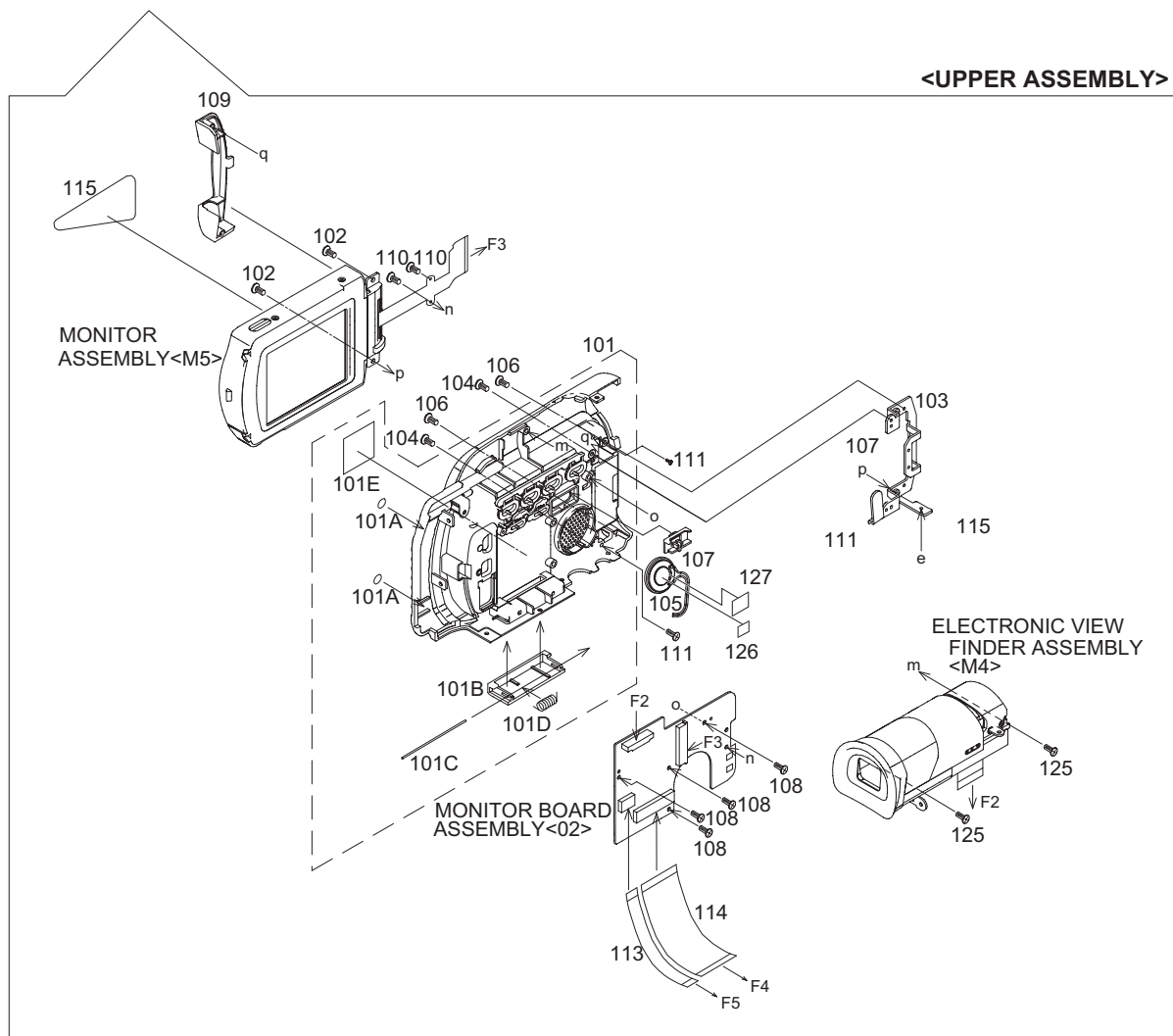


3-2

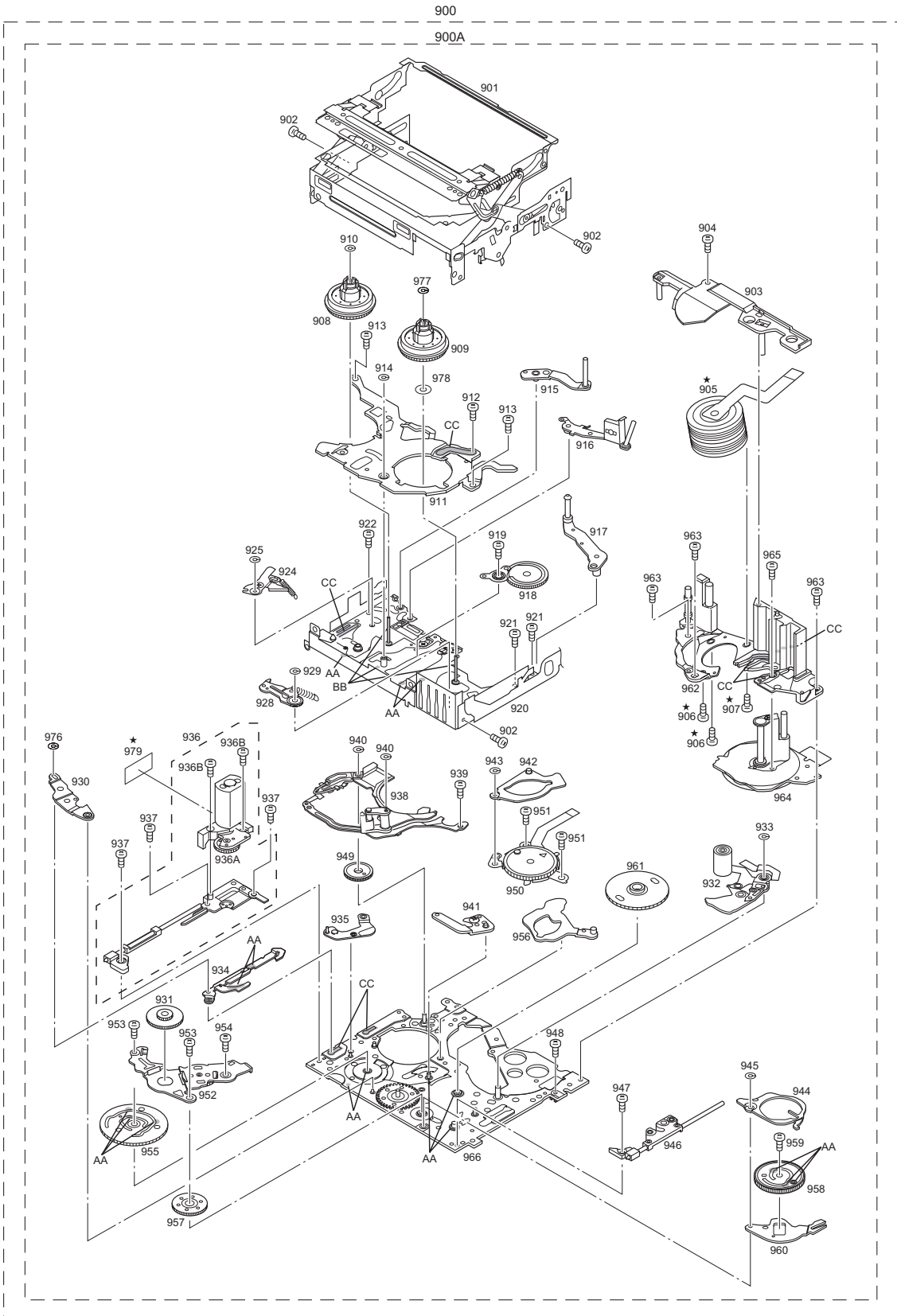




<UPPER ASSEMBLY>



1.3 MECHANISM ASSEMBLY <M3>

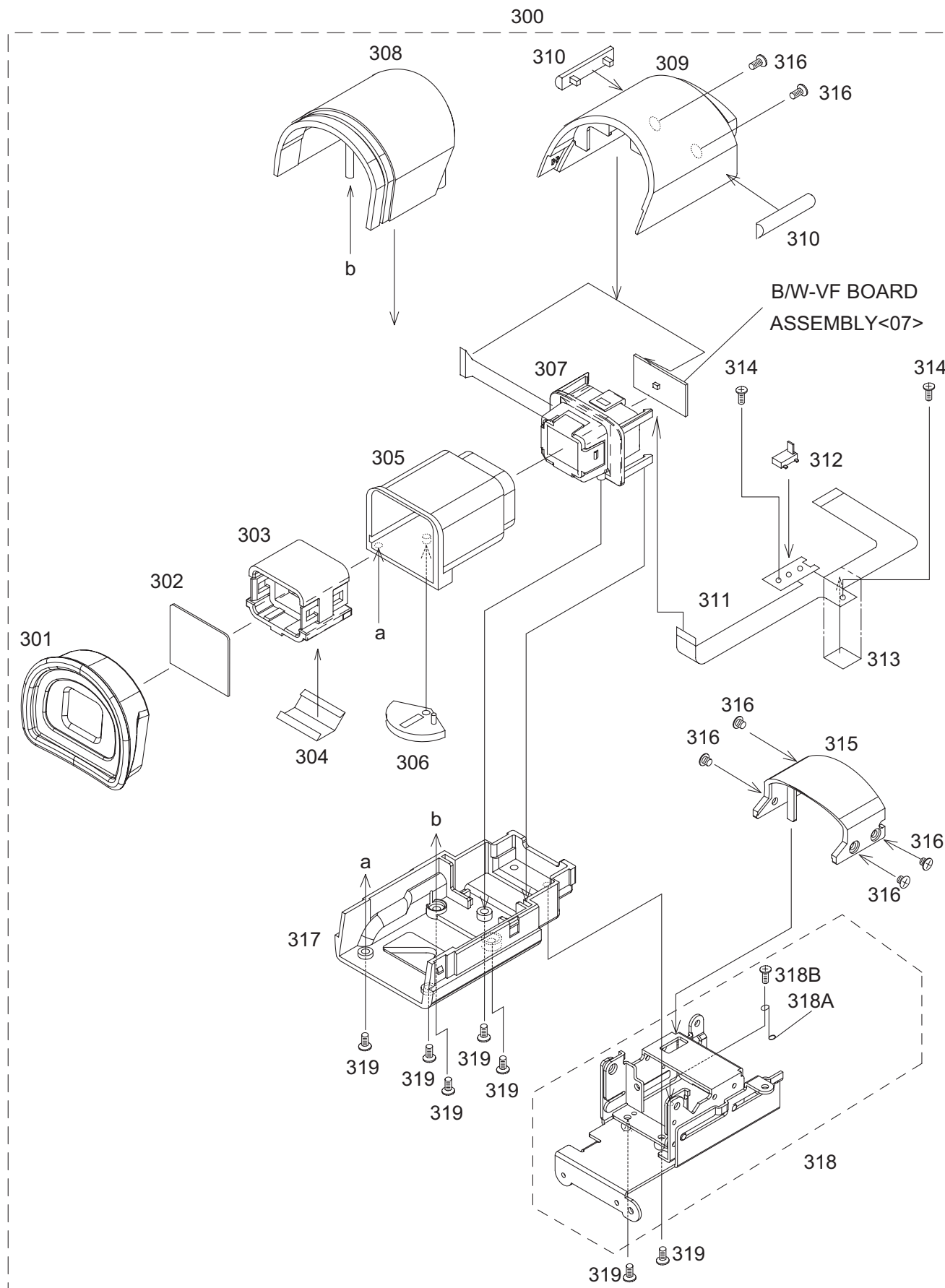


Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in **AA** and **BB**, **CC** indicate lubrication and greasing areas.

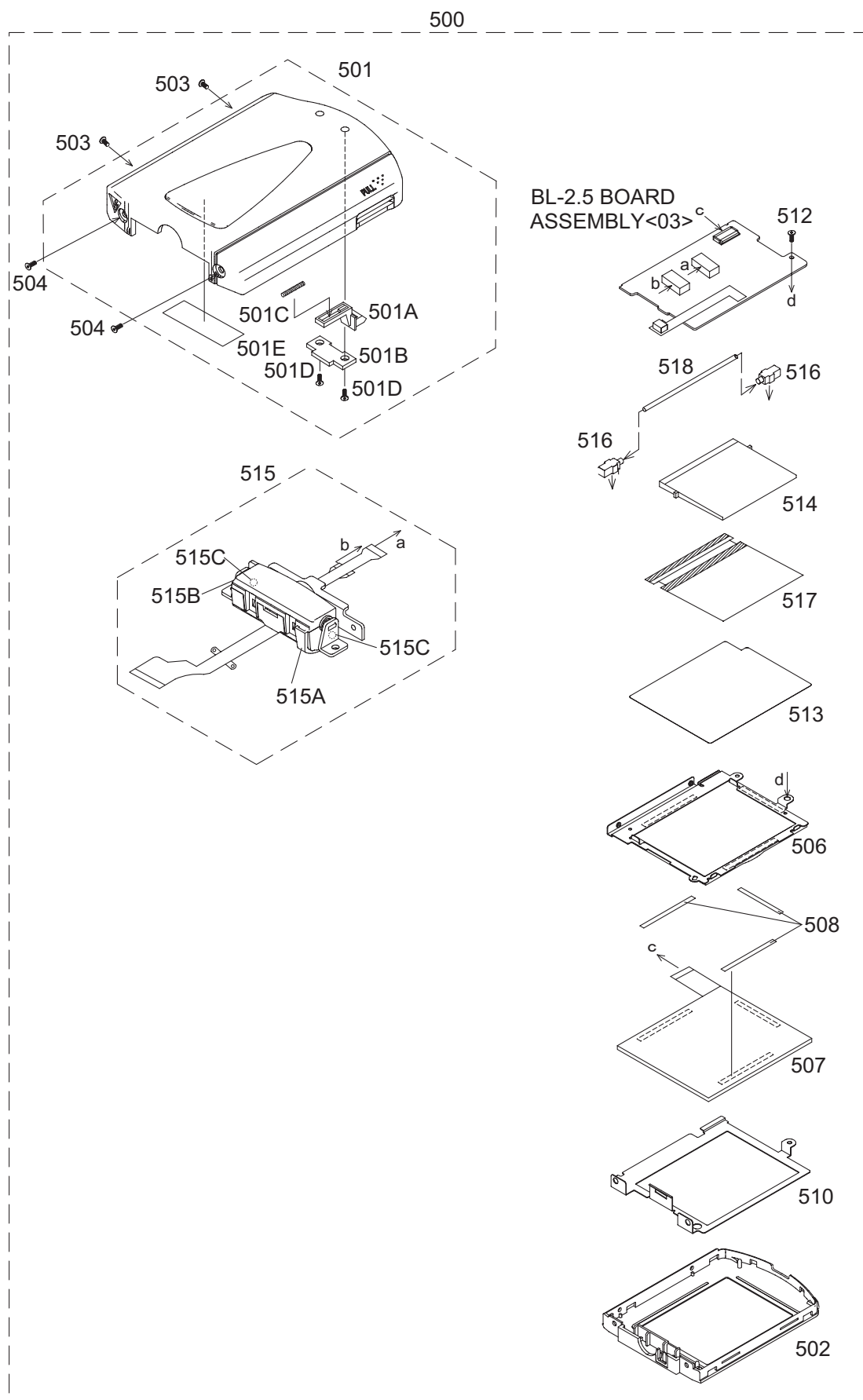
NOTE2: Mark ***** is not contained in 900A.

1.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4>



MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

1.5 MONITOR ASSEMBLY (2.5 INCH) <M5> [A,B,D]



MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

2. PARTS LIST

PACKING AND ACCESSORY ASSEMBLY <M1>

△ Symbol No.	Part No.	Part Name	Description	Local
1	LY33063-001B	PACKING CASE		B
1	LY33063-002A	PACKING CASE		F
1	LY33063-002B	PACKING CASE		G
1	LY33063-005A	PACKING CASE		D
1	LY33063-008B	PACKING CASE		C
2	LY33065-001B	CUSHION		F
2	LY33065-001C	CUSHION	A,B,C,D,E,G	
3	LY30023-027A	POLY BAG		
4	QPA02003506	POLY BAG	20cm x 35cm	
△ 5	LYT1069-001A	INST BOOK	(ENGLISH)	F
△ 5	LYT1069-001B	INST BOOK	(ENGLISH)	B,D
△ 5	LYT1069-002A	INST BOOK	(FRENCH)	F
△ 5	LYT1069-002B	INST BOOK	(FRENCH)	B,D
△ 5	LYT1069-003A	INST BOOK	(SPANISH)	B,D,F
△ 5	LYT1072-001B	INST BOOK	(ENGLISH)	G
△ 5	LYT1072-002B	INST BOOK	(FRENCH)	G
△ 5	LYT1072-003A	INST BOOK	(SPANISH)	G
△ 5	LYT1113-001A	INST BOOK	(ENGLISH)	C
△ 5	LYT1113-002A	INST BOOK	(FRENCH)	C
△ 5	LYT1113-003A	INST BOOK	(SPANISH)	C
△ 5	LYT1136-001A	INST BOOK	(PORTUGUESE)	A,E
6	LYT1070-004A	INST BOOK	(SOFT.PORTUGUESE)	E
6	LYT1070-001B	INST BOOK	(SOFT.ENGLISH)	D,F,G
6	LYT1070-002B	INST BOOK	(SOFT.FRENCH)	D,F,G
6	LYT1070-003B	INST BOOK	(SOFT.SPANISH)	D,F,G
7	BT-51005-5	WARRANTY INF.		F
7	BT-51005-6	WARRANTY INF.		B,C,D,G
8	BT-51028-2	REGIST.CARD		B,C,D,F,G
10	BT-52006-2	WARRANTY CARD		B,C,D,G
16	LYT0966-014A	INST BOOK	(P.NAVI.PORTUGUESE)	E
20	QPA01703005	POLY BAG	17cm x 30cm	
21	PEAC0428-150	CABLE ASSY		G
22	QQR0491-002	FERRITE CORE	TDK (BLACK)	G
23	QAM0451-001	USB CABLE		D,E,F,G
24	QQR0491-002	FERRITE CORE	TDK (BLACK)	D,E,F,G
25	QAM0211-001	AV CABLE		
26	QQR0918-002	CORE FILTER		
△ 27	LY20955-001C	AC ADAPTER	AP-V13E	A,E
△ 27	LY20968-001B	AC ADAPTER	AP-V13U	B,C,D,F,G
△ 27	or LY20790-001A	AC ADAPTER	AP-V11U	B,C,D,F,G
28	QQR0917-002	CORE FILTER		
△ 29	QMPS110-190-JR	POWER CORD	1.9m BLACK	A,E
30	QPA02503505P	POLY BAG	25cm x 35cm	
△ 31	LY32566-001A	BATT.PACK ASSY	BN-V408U-B	
32	LY20186-004A	SHOULDER STRAP		
33	LY20750-001A	REMOCON	RM-V717U	G
33	LY21020-001A	REMOCON	RM-V718U	D,F
33A	PTY20543-011	BATTERY COVER		G
34	QQR0491-002	FERRITE CORE	TDK (BLACK)	
35	-----	BATTERY	AAA(R03)(x2)	G
36	LY44002-001B	CAP(HOOD)ASSY		
37	LY32210-045A	CD ROM ASSY		D,E,F,G
38	LY32210-043A	CD ROM ASSY		B,C,D,F,G
39	QAM0404-002	MEMORY CARD*		E,F,G

*NOTE:

DATA FILE is not contained in MEMORY CARD of the service part.

FINAL ASSEMBLY <M2>

△ Symbol No.	Part No.	Part Name	Description	Local
101	LY20941-001H	U.CASE(2.5)ASSY		A,B
101	LY20941-002K	U.CASE(2.5)ASSY		D
101	LY20942-001B	U.CASE(3.5)ASSY		F
101	LY20942-001H	U.CASE(3.5)ASSY		E,G
101	LY20942-004G	U.CASE(3.5)ASSY		C
101A	LY40664-001A	SPACER	(x2)	
101B	LY33051-001D	COVER(SD)		D,E,F,G
101C	LY43977-001A	SHAFT		D,E,F,G
101D	LY43978-001A	SPRING		D,E,F,G

△ Symbol No.	Part No.	Part Name	Description	Local
101E	LY33042-001A	C.LABEL(VF)		
102	LY30018-0D6A	SPECIAL SCREW	(x2)	
103	LY33044-001D	BKT(HINGE2.5)		A,B,D
103	LY33054-001C	BKT(HINGE3.5)		C,E,F,G
104	LY30018-096A	SPECIAL SCREW	(x2)	
105	QAS0126-001	SPEAKER		
106	LY30018-017A	SPECIAL SCREW	(x2)	
107	LY33048-001A	KNOB(SLIDE)		D,E,F,G
108	LY30018-059A	SPECIAL SCREW	(x4)	
109	LY33049-001A	COVER(UPPER2.5)		A,B,D
109	LY33055-001A	COVER(UPPER3.5)		C,E,F,G
110	LY30018-056A	SPECIAL SCREW	(x2)	
111	LY30018-0E6A	SPECIAL SCREW	(x2)	
112	LY33050-001C	COVER(JIG)		
113	QUQ105-1007AA	FFC WIRE MONI CN762-MAIN CN103		D,E,F,G
114	QUQ105-4007AA	FFC WIRE MONI CN761-MAIN CN101		
115	LY33360-001B	ORNAMENT(2.5)		A,B,D
115	LY33361-001B	ORNAMENT(3.5)		C,E,F,G
116	LY30018-0E6A	SPECIAL SCREW	(x2)	
117	LY30018-0A1A	SPECIAL SCREW		
118	LY30018-096A	SPECIAL SCREW	(x2)	
119	LY30018-096A	SPECIAL SCREW		
120	LY33025-001B	TOP COVER ASSY		
120A	LY40162-001A	BKT		
121	LY30018-096A	SPECIAL SCREW		
122	LY30018-096A	SPECIAL SCREW		
123	LY44187-001A	STICKER(2)		D
123	LY44187-002A	STICKER(2)		A,B
123	LY44188-001A	STICKER(3)		E,F,G
123	LY44188-004A	STICKER(3)		C
125	LY30018-0E6A	SPECIAL SCREW	(x2)	
126	LY30030-0E3A	SPACER(A)		F
126	LY30030-0E3B	SPACER(A)		A,B,C,D,E,G
127	LY30030-0E5A	SPACER(A)		A,B,C,D,E,G
135	LY20943-001D	F.COVER ASSY		F
135	LY20943-001E	F.COVER ASSY		A,B,C,D,E,G
135A	LY33056-001B	HOOD		
135B	LY33057-001A	RING		
135C	LY33058-001A	HOOD(SCREW)		
135D	LY33059-001B	BKT(FRONT)		
135E	LY44186-001A	STICKER(1)		
135F	LY30018-0E6A	SPECIAL SCREW		
135G	LY30018-052A	SPECIAL SCREW	(x3)	
136	LY20944-001A	MIC		F
136	LY20944-001B	MIC		A,B,C,D,E,G
137	LY30018-084A	SPECIAL SCREW		F
137	LY30018-0G6A	SPECIAL SCREW		A,B,C,D,E,G
△ 145	LY20938-001C	REAR UNIT		F
△ 145	LY20938-001E	REAR UNIT		A,B,C,D,E,G
146	LY30018-0G6A	SPECIAL SCREW	(x2)	
147	LY30018-0J1A	SPECIAL SCREW	(x2)	
148	LY30018-0H3A	SPECIAL SCREW		
155	LY20935-001E	LOWER CASE ASSY		A,B,C,D,E,F
155	LY20935-002E	LOWER CASE ASSY		G
155A	LY33402-001A	COVER(LOWER)		
155B	LY30018-0E6A	SPECIAL SCREW	(x2)	
156	LY20939-001F	ARM ASSY		
156A	LY30002-046B	COMPRES. SPRING	(x2)	
156B	LY43973-001A	TENSION SPRING		
157	QUQ105-2203AA	FFC WIRE JACK CN501-MAIN CN102		
158	LY30018-096A	SPECIAL SCREW		
159	LY30018-059A	SPECIAL SCREW	(x2)	
160	LY30018-096A	SPECIAL SCREW	(x2)	
161	LY10453-001E	ZOOM UNIT		
162	LY30018-0E6A	SPECIAL SCREW		
163	LY33395-001A	BRACKET(ZOOM)		
164	LY30018-059A	SPECIAL SCREW		
165	LY20937-001D	C.COVER ASSY		B
165	LY20937-001E	C.COVER ASSY		A,C,D,E,F,G
165A	LY33027-001B	KNOB(LOCK)		
165B	LY33028-001A	HOLDER(LOCK)		
165C	LY33397-001A	HOOK(G.B)		
165D	LY33039-001A	BKT(G.BELT)		
165E	LY20945-001A	GRIP BELT		
165F	LY44178-001A	SHEET(C.COV)		
165G	LY30018-0E6A	SPECIAL SCREW		
165H	QYSLSF2040D	TAP SCREW	2mm x 4mm(x2)	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
165J	QYSLSF2040D	TAP SCREW	2mm x 4mm(x2)		911	LY10372-001D	REEL COVER ASSY		
165K	QYSLSF2040D	TAP SCREW	2mm x 4mm		912	LY42120-002A	MINI SCREW		
165L	LY30018-0H1A	SPECIAL SCREW	(x2)		913	LY41945-003A	MINI SCREW	(x2)	
166	LY30018-0K3A	SPECIAL SCREW	(x2)		914	YQ44246	SLIT WASHER		
167	LY30018-096A	SPECIAL SCREW	(x2)		915	LY43725-001D	TENSION ARM ASSY		
168	LY30018-059A	SPECIAL SCREW		C	916	LYH40269-001A	SLANT POLE ARM ASSY		
168	LY30018-059A	SPECIAL SCREW	(x2) A,B,D,E,F,G		917	LY43731-001F	TU ARM ASSY		
169	LY31019-001A	BASE			918	LY31531-001D	SWING ARM ASSY		
170	LY30018-0E6A	SPECIAL SCREW	(x2)		919	YQ43893	MINI SCREW		
171	LY33396-001B	HOLDER(JACK)			920	LYH30424-001A	SLIDE DECK FINAL ASSY		
172	LY30018-0E6A	SPECIAL SCREW			921	YQ43893	MINI SCREW	(x2)	
173	LY33037-001B	COVER(ZOOM)			922	LY43023-001A	MINI SCREW		
174	LY30018-084A	SPECIAL SCREW	(x3)		924	LYH30419-001A	PAD ARM ASSY		
175	LY33029-001B	COVER(ADJUST)			925	YQ44246	SLIT WASHER		
176	LY33024-001C	COVER(JACK)			928	LYH40270-001A	TU BRAKE ASSY		
177	LY44189-001A	STICKER(4)	D,E,F,G		929	YQ44246	SLIT WASHER		
178	LY30018-017A	SPECIAL SCREW			930	LY43684-001A	TENSION CONTROL LEVER ASSY		
179	LY30018-0E6A	SPECIAL SCREW		C	931	LY32861-001A	CENTER GEAR		
191	LY33019-001B	BKT(MECHA)ASSY			932	LY31516-001F	PINCH ROLLER ARM FINAL ASSY		
191A	LY42796-003A	BUSH	(x3)		933	YQ44246	SLIT WASHER		
192	LY30019-028A	SPECIAL SCREW	(x3)		934	LY43681-001A	TENSION CONTROL PLATE ASSY		
193	LY30018-056A	SPECIAL SCREW	(x2)		935	LY43687-001A	BRAKE CONTROL LEVER ASSY		
194	LY40699-002A	LABEL(PUSH)			936	LYH30421-001A	MOTOR BRACKET ASSY		
195	LY32001-002A	LABEL(HOUSING)			936A	QAR0138-001	LOADING MOTOR		
196	LY33388-001A	SHIELD COVER(PR)		F	936B	LY41940-001A	TAPPING SCREW	(x2)	
196	LY33388-001C	SHIELD COVER(PR)	A,B,C,D,E,G		937	YQ43893	MINI SCREW	(x3)	
197	QYSPSPT1414M	SCREW	1.4mm x 1.4mm(x2)		938	LYH30422-001A	GUIDE RAIL ASSY		
198	LY30018-096A	SPECIAL SCREW	(x2)		939	YQ43893	MINI SCREW		
199	LY30019-038A	SPECIAL SCREW	(x2)		940	YQ44246	SLIT WASHER	(x2)	
200	LY30018-096A	SPECIAL SCREW	(x2)		941	LY32843-001A	SLIDE LEVER2 ASSY		
201	LY30018-017A	SPECIAL SCREW			942	LY43690-001A	LOADING PLATE ASSY		
202	QUQ105-24X8AA	FPC WIRE OP BLOCK-MAIN CN108			943	YQ44246	SLIT WASHER		
203	QAL0465-001	FPC CCD CN501-MAIN CN107		A,B,D	944	LY32858-001A	EJECT LEVER		
215	LY43965-001C	BKT(OP)ASSY		F	945	YQ44246	SLIT WASHER		
215	LY43965-001D	BKT(OP)ASSY	A,B,C,D,E,G		946	LYH40271-001A	BASE R ASSY		
215A	LY30030-095A	SPACER(A)			947	YQ43893	MINI SCREW		
215B	LY30030-096A	SPACER(A)			948	LY41945-001B	MINI SCREW		
215C	LY43966-001A	RUBBER(OP)	(x2)		949	LY43665-001A	MODE GEAR		
215D	LY30030-0E5A	SPACER(A)			950	QSW0876-003	ROTARY ENCODER		
216	LY30018-0G9A	SPECIAL SCREW	(x2)		951	YQ43893	MINI SCREW	(x2)	
217	LY30030-057A	SPACER(A)			952	LY32860-001A	GEAR COVER ASSY		
218	LY30030-050A	SPACER(A)			953	YQ43893	MINI SCREW	(x2)	
219	LY30030-060A	SPACER(A)			954	YQ43893-4	MINI SCREW		
251	LY33085-001B	OP BLOCK ASSY		F	955	LY43676-001A	MAIN CAM ASSY		
251	LY33085-001D	OP BLOCK ASSY	A,B,C,D,E,G		956	LY41941-001B	SLIDE ARM ASSY		
251A	LY30724-001B	FOCUS MOTOR			957	LY43678-001A	CONNECT GEAR 2		
251B	LY30723-001B	ZOOM MOTOR			958	LY41954-001C	SUB CAM ASSY		
251C	PTY33085-001	SCREW	(x7)		959	LY42120-001A	MINI SCREW		
251D	PTY31727-116	SCREW	(x2)		960	LY43692-001A	CONTROL ARM ASSY		
251E	PTY33085-007	IRIS MOTOR UNIT			961	LY32859-001A	REEL GEAR 1		
252	LY44120-001A	OP LPF			962	LY31508-002B	DRUM BASE ASSY		
253	LY44005-001A	SHEET			963	QYSPSPU1425M	SCREW	1.4mm x 2.5mm(x3)	
254	LY33288-001A	SPACER			964	QAR0142-001	CAPSTAN MOTOR		
255	LYH30446-001A	CCD BASE ASSY			965	YQ43893	MINI SCREW		
256	LY30018-011A	SPECIAL SCREW	(x2) F		966	LY10367-001D	MAIN DECK ASSY		
256	LY30018-0E7A	SPECIAL SCREW	(x2) A,B,C,D,E,G		976	YQ44246	SLIT WASHER		
257	LY30030-093A	SPACER(A)			977	YQ44246-6	SLIT WASHER		
258	LY30030-094A	SPACER(A)			978	LY42047-005A	WASHER		
259	LY30029-0Q7A	SPACER(A)	A,B,C,D,E,G		979	LY43987-001B	SPACER		

MECHANISM ASSEMBLY <M3>

△ Symbol No.	Part No.	Part Name	Description	Local
900	YMA0029H	MECHA(A)ASSY		
900A	YMA0029D	MECHA(A)ASSY		
901	LY32870-001G	CASSETTE HOUSING ASSY		
902	YQ43893-8	MINI SCREW	(x3)	
903	LYH30420-001A	UPPER BASE ASSY		
904	QYSPSPU1425M	SCREW		
905	YDV2102B	DRUM ASSY		
906	LY42820-001A	DAMP.SCREW ASSY	(x2)	
907	LY42820-002A	DAMP.SCREW ASSY		
908	LY31538-001F	REEL DISK ASSY		
909	LY31538-002H	REEL DISK ASSY		
910	YQ44246	SLIT WASHER		

ELECTRONIC VIEWFINDER ASSEMBLY<M4>

△ Symbol No.	Part No.	Part Name	Description	Local
300	LY21043-001E	VF ASSY		
301	LY32995-001B	EYE CUP		
302	LY43961-001B	SHEET(LENS)		
303	LY32472-001A	LENS ASSY		
304	LY43868-001A	SPRING(LENS)		
305	LY32993-001C	GUIDE LENS(VF)		
306	LY33006-001C	LEVER(LENS)		
307	LY33442-001B	LCD UNIT ASSY		
308	LY20931-001B	U.CASE(VF)R		
309	LY20930-001B	U.CASE(VF)F		
310	LY33083-001A	PROTECTOR(VF)	(x2)	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

Symbol No.	Part No.	Part Name	Description	Local
311	QAL0466-002	FPC		
312	NSW0200-001X	LEVER SWITCH VF SW		
313	LY30030-059B	SPACER(A)		
314	LY30018-031A	SPECIAL SCREW	(x2)	
315	LY32996-001B	COVER(VF)		
316	LY30018-022A	SPECIAL SCREW	(x6)	
317	LY20929-001C	B.CASE(VF)		
318	LY33076-001E	VF HINGE ASSY		
318A	LY43962-001C	TOR.SPRING		
318B	LY30019-048A	SPECIAL SCREW		
319	LY30018-084A	SPECIAL SCREW	(x7)	

MONITOR ASSEMBLY (2.5 INCH) <M5>

Symbol No.	Part No.	Part Name	Description	Local
500	LY21042-001B	MONITOR ASSY		A,B
500	LY21042-002B	MONITOR ASSY		D
501	LY20932-001E	M.COVER(2.5)ASSY		A,B
501	LY20932-002E	M.COVER(2.5)ASSY		D
501A	LY33007-001C	KNOB(LOCK)M		A,B,D
501B	LY33008-001A	HOLDER(LOCK)M		A,B,D
501C	LY30002-047A	COMPRES. SPRING		A,B,D
501D	LY30018-0C8A	SPECIAL SCREW	(x2)	A,B,D
501E	LY30030-0E5A	SPACER(A)		A,B,D
502	LY10407-001C	MONI.CASE(2.5)		A,B,D
503	QYSPSPT1730R	SCREW	1.7mm x 3mm(x2)	A,B,D
504	LY30018-0K9A	SPECIAL SCREW	(x2)	A,B,D
506	LY33011-001C	LCD FRAME(2.5)		A,B,D
507	QLD0262-001	LCD MODULE		A,B,D
508	LY30029-0R5A	SPACER(A)	(x3)	A,B,D
510	LY33010-001A	SHIELD CASE(2.5)		A,B,D
512	QYSPSPT1720R	SCREW	1.7mm x 2mm	A,B,D
513	LY33012-001A	DIFF.SHEET(2.5)		A,B,D
514	LY43938-001A	LIGHT SCREEN		A,B,D
515	LY33013-001B	MONI.HINGE ASSY		A,B,D
515A	LY33015-001A	HINGE COVER(U)		A,B,D
515B	LY32969-002A	HINGE COVER(L)		A,B,D
515C	LY30018-0K1A	SPECIAL SCREW	(x2)	A,B,D
516	LY43936-001A	HOLDER(LAMP)	(x2)	A,B,D
517	LY43396-001A	SHEET(REFLECT)		A,B,D
518	QLL0142-001	LAMP		A,B,D

MONITOR ASSEMBLY (3.5 INCH) <M5>

Symbol No.	Part No.	Part Name	Description	Local
△ 500	LY21042-007B	MONITOR ASSY		C
△ 500	LY21042-003B	MONITOR ASSY		E,F,G
△ 501	LY20933-003B	M.COVER(3.5)ASSY		C
△ 501	LY20933-001B	M.COVER(3.5)ASSY		E,F,G
501A	LY31620-006A	KNOB(LOCK 1)		C,E,F,G
501B	LY42180-003A	KNOB(LOCK 2)		C,E,F,G
501C	LY30002-044A	COMPRES. SPRING		C,E,F,G
501D	LY30018-084A	SPECIAL SCREW	(x2)	C,E,F,G
502	LY10409-001A	MONI.CASE(3.5)		C,E,F,G
503	QYSPSPT1730R	SCREW	1.7mm x 3mm(x2)	C,E,F,G
504	LY30018-0K9A	SPECIAL SCREW	(x2)	C,E,F,G
505	QLL0141-001	BACK LIGHT		C,E,F,G
506	LY32335-001A	LCD FRAME(3.5)		C,E,F,G
507	QLD0263-001	LCD MODULE		C,E,F,G
508	LY30029-0R5A	SPACER(A)	(x2)	C,E,F,G
509	LY30030-048A	SPACER(A)		C,E,F,G
510	LY32334-001A	S.CASE(3.5)		F
510	LY44217-001A	S.CASE(3.5)ASSY		C,E,G
510A	LY30030-081A	SPACER(A)		C,E,G
511	LY30030-049A	SPACER(A)	(x3)	F
511	LY30030-049A	SPACER(A)	(x2)	C,E,G
512	QYSPSPT1720R	SCREW	1.7mm x 2mm	C,E,F,G
513	LY30030-081A	SPACER(A)		F
515	LY33013-002B	MONI.HINGE ASSY		C,E,F,G
515A	LY32968-004A	HINGE COVER(U)		C,E,F,G

Symbol No.	Part No.	Part Name	Description	Local
515B	LY32969-002A	HINGE COVER(L)		C,E,F,G
515C	LY30018-0K1A	SPECIAL SCREW	(x2)	C,E,F,G
519	LY30030-0F5B	SPACER(A)		C,E,G
520	LY30030-082A	SPACER(A)		F

MAIN BOARD ASSEMBLY <01>

Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10404A-02	MAIN BOARD ASSY		A,B,C
PW1	YB10404B-01	MAIN BOARD ASSY		F
PW1	YB10404B-03	MAIN BOARD ASSY		D,E,G
IC1001	MN103S33NJA	IC(MICRO C ROM)		
IC1001	or MN103SF33NY4JA	IC(MICRO C ROM)		
IC1002	MB90097PFV149-X	IC(MICRO C ROM)		
IC1003	SN74AHC1G00K-X	IC		
IC1003	or SN74AHC1G00DC-X	IC		A,B,C,D,E,G
IC1004	S-89220ACNC-W	IC		
IC1005	X25330S8I-2.5-X	IC		
IC1005	or AT25320N-10SI-X	IC		
IC1005	or M95320-WMN6-X	IC		
IC1005	or 25LC320-I/SN-X	IC		
IC1005	or CAT25C32SI-X	IC		
IC1006	RS5C314-X	IC		
IC1007	IC-PST3423U-X	IC		
IC1007	or S-80823CNNB-X	IC		
IC2201	AK4564VQ	IC		
IC3001	JCY0152	IC		
IC3002	BU2501FV-X	IC		
IC3005	JCY0136-X	IC		
IC3701	BA7665FS-X	IC		
IC3731	MM1504XN-X	IC		D,E,F,G
IC3801	JCP8045	IC		D,E,F,G
IC3851	JCP8055FP	IC		A,B,C
IC4201	HD49340NP-X	IC		
IC4202	MM1613AN-X	IC		
IC4301	JCY0200	IC		
IC4302	R1160N151B-X	IC		
IC4802	BA10358FVM-W	IC		
IC4803	BA10358FVM-W	IC		
IC4804	LM358DR2-X	IC		
IC4807	SN74AHC2G66U-X	IC		D,E,F,G
IC4851	UPD16879GS-X	IC		
IC5501	JCY0185	IC		
IC6001	FA3698F	IC		
IC6801	R1224N102G-X	IC		
IC8001	TMS320DSC24GHKL	IC		D,E,F,G
IC8002	K4S643232F-TC60	IC		D,E,F,G
IC8002	or HY57643220CT55	IC		D,E,F,G
IC8002	or HY57643220CT7	IC		D,E,F,G
IC8003	MBV160TE90PTA45	IC(MICRO C ROM)		F
IC8003	or MBV160T90PTA45	IC(MICRO C ROM)		F
IC8003	MBV160TE90PTA47	IC(MICRO C ROM)		D,E,G
IC8003	or MBV160T90PTA47	IC(MICRO C ROM)		D,E,G
IC8003	or MR27T1602F163TN	IC(MICRO C ROM)		D,E,G
IC8004	S-80842CNNB-W	IC		D,E,F,G
IC8007	MM1613DN-X	IC		D,E,F,G
Q1001	DTA114EE-X	DIGI TRANSISTOR		
Q1001	or PDTA114EE-X	DIGI TRANSISTOR		
Q1001	or RN2102-X	DIGI TRANSISTOR		
Q1001	or BCR183T-X	DIGI TRANSISTOR		
Q1002	UMC3N-W	DIGI TRANSISTOR		
Q1003	UMC3N-W	DIGI TRANSISTOR		
Q1004	UMC3N-W	DIGI TRANSISTOR		
Q1005	DTC143XE-X	DIGI TRANSISTOR		
Q1006	UMC3N-W	DIGI TRANSISTOR		
Q1007	2SC4617/QR-X	TRANSISTOR		
Q1007	or BC847BT-X	TRANSISTOR		
Q1008	DTC124EE-X	DIGI TRANSISTOR		
Q1008	or PDTCT124EE-X	DIGI TRANSISTOR		
Q1008	or BCR141T-X	DIGI TRANSISTOR		
Q1009	2SJ347-X	MOS FET		
Q2001	UMX1N-W	PAIR TRANSISTOR		

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
Q2001	or BC847S-X	PAIR TRANSISTOR			Q6605	or BC856S-X	PAIR TRANSISTOR		
Q2002	UMX1N-W	PAIR TRANSISTOR			Q6606	2SC4617/QR/-X	TRANSISTOR		
Q2002	or BC847S-X	PAIR TRANSISTOR			Q6606	or BC847BT-X	TRANSISTOR		
Q2003	UMX1N-W	PAIR TRANSISTOR			Q6701	CPH3314-X	MOS FET		
Q2003	or BC847S-X	PAIR TRANSISTOR			Q6801	FML9-W	TRANSISTOR		
Q2004	UMX1N-W	PAIR TRANSISTOR			Q8001	DTA114EE-X	DIGI TRANSISTOR		D,E,F,G
Q2004	or BC847S-X	PAIR TRANSISTOR			Q8001	or BCR183T-X	DIGI TRANSISTOR		D,E,F,G
Q2005	UMX1N-W	PAIR TRANSISTOR							
Q2005	or BC847S-X	PAIR TRANSISTOR			D1001	DA221-X	DIODE ARRAY		
Q2006	UMX1N-W	PAIR TRANSISTOR			D3001	EC2C01C-X	VARI CAP DIODE		
Q2006	or BC847S-X	PAIR TRANSISTOR			D3002	EC2C01C-X	VARI CAP DIODE		
Q2202	UMX1N-W	PAIR TRANSISTOR			D3003	EC2C01C-X	VARI CAP DIODE		
Q2202	or BC847S-X	PAIR TRANSISTOR			D3004	MA2Z720-X	SB DIODE		
Q2401	2SC4617/QR/-X	TRANSISTOR			D5501	1SS355-X	SI DIODE		
Q2401	or BC847BT-X	TRANSISTOR			D6601	RB481K-X	SB DIODE		
Q2403	2SC4617/QR/-X	TRANSISTOR			D6602	RB480Y-W	SB DIODE		
Q2403	or BC847BT-X	TRANSISTOR			D6701	RB160M-30-X	SB DIODE		
Q3001	2SC4617/RS/-X	TRANSISTOR			D6702	RB160M-30-X	SB DIODE		
Q3001	or BC847BT-X	TRANSISTOR			△ D6801	RB715F-X	SB DIODE		
Q3002	2SC4617/RS/-X	TRANSISTOR			D8001	RB751V-40-X	SB DIODE		D,E,F,G
Q3002	or BC847BT-X	TRANSISTOR							
Q3701	UMT1N-W	PAIR TRANSISTOR			C1001	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J	
Q3701	or XP4401-W	TRANSISTOR			C1002	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
Q3701	or BC856S-X	PAIR TRANSISTOR			C1004	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3702	UMZ1N-W	PAIR TRANSISTOR			C1005	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3702	or XP4601-W	TRANSISTOR			C1007	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3704	2SA1774/RS/-X	TRANSISTOR			C1008	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3704	or BC857BT-X	TRANSISTOR			C1009	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3705	UMT1N-W	PAIR TRANSISTOR			C1010	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3705	or XP4401-W	TRANSISTOR			C1011	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3705	or BC856S-X	PAIR TRANSISTOR			C1012	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3731	2SC4617/RS/-X	TRANSISTOR	D,E,F,G		C1013	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3731	or 2SD2216J/RS/-X	TRANSISTOR	D,E,F,G		C1014	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3731	or BC847BT-X	TRANSISTOR	D,E,F,G		C1015	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q3732	DTC144EE-X	DIGI TRANSISTOR	D,E,F,G		C1019	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3732	or UN9213J-X	DIGI TRANSISTOR	D,E,F,G		C1020	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
Q3732	or BCR148T-X	DIGI TRANSISTOR	D,E,F,G		C1021	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
Q3733	UMZ1N-W	PAIR TRANSISTOR	D,E,F,G		C1022	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3733	or XP4601-W	TRANSISTOR	D,E,F,G		C1024	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3734	2SC4617/RS/-X	TRANSISTOR	D,E,F,G		C1025	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3734	or 2SD2216J/RS/-X	TRANSISTOR	D,E,F,G		C1029	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3734	or BC847BT-X	TRANSISTOR	D,E,F,G		C1030	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
Q3735	UMZ1N-W	PAIR TRANSISTOR	D,E,F,G		C1032	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q3735	or XP4601-W	TRANSISTOR	D,E,F,G		C1035	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q4801	2SC4655/BC/-X	TRANSISTOR			C1036	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q4802	2SC4617/RS/-X	TRANSISTOR	D,E,F,G		C1037	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q4802	or BC847BT-X	TRANSISTOR	D,E,F,G		C1038	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q4803	DTC144EE-X	DIGI TRANSISTOR	D,E,F,G		C1039	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q4803	or BCR148T-X	DIGI TRANSISTOR	D,E,F,G		C1040	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
Q4804	DTA144EE-X	DIGI TRANSISTOR	D,E,F,G		C1041	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q4804	or BCR198T-X	DIGI TRANSISTOR	D,E,F,G		C1042	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q4805	DTA143EE-X	DIGI TRANSISTOR	D,E,F,G		C1043	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q4805	or BCR162T-X	DIGI TRANSISTOR	D,E,G		C1044	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
Q4806	2SC4617/QR/-X	TRANSISTOR			C1045	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
Q4806	or BC847BT-X	TRANSISTOR			C1046	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
Q4851	2SC4617/RS/-X	TRANSISTOR			C1047	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q4851	or BC847BT-X	TRANSISTOR			C1048	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q6101	SSM5G01TU-X	MOS FET			C1049	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q6102	2SA1577/QR/-X	TRANSISTOR			C1050	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
Q6102	or BC807-25W-X	TRANSISTOR	A,B,C,D,E,G		C1051	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
Q6201	SSM5G01TU-X	MOS FET			C1052	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
Q6301	SSM5G01TU-X	MOS FET			C1053	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
Q6302	2SA1577/QR/-X	TRANSISTOR			C1054	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
Q6302	or BC807-25W-X	TRANSISTOR	A,B,C,D,E,G		C1055	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
Q6303	2SC4617/QR/-X	TRANSISTOR			C1064	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
Q6303	or BC847BT-X	TRANSISTOR			C2201	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6401	SSM5G01TU-X	MOS FET			C2202	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6501	SSM5G01TU-X	MOS FET			C2203	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6601	CPH3314-X	MOS FET			C2204	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6602	UMX1N-W	PAIR TRANSISTOR			C2205	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6602	or HN1C01FU/G/-X	PAIR TRANSISTOR			C2209	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6602	or BC847S-X	PAIR TRANSISTOR			C2210	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
Q6603	2SA1577/QR/-X	TRANSISTOR			C2211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6603	or BC807-25W-X	TRANSISTOR	A,B,C,D,E,G		C2212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6604	DTC144EE-X	DIGI TRANSISTOR			C2213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6604	or BCR148T-X	DIGI TRANSISTOR			C2214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6605	UMT1N-W	PAIR TRANSISTOR			C2215	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
Q6605	or HN1A01FU/G/-X	PAIR TRANSISTOR			C2216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C2217	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3713	NEA70GM-337X	E CAPACITOR	330uF 4V M	
C2218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3715	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2223	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3731	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C2224	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3732	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	D,E,F,G
C2401	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3733	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	D,E,F,G
C2402	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3734	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	D,E,F,G
C2403	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3735	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	D,E,F,G
C2404	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3736	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	D,E,F,G
C2405	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3738	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C2406	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3739	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C2603	NCBA1CK-153W	C CAPACITOR	0.015uF 16V K		C3740	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	D,E,F,G
C2604	NCBA1CK-153W	C CAPACITOR	0.015uF 16V K		C3741	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	D,E,F,G
C2605	NCBA1EK-472W	C CAPACITOR	4700pF 25V K		C3742	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C2606	NCBA1EK-472W	C CAPACITOR	4700pF 25V K		C3743	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	D,E,F,G
C2607	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3744	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	D,E,F,G
C2608	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3745	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	D,E,F,G
C2611	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3746	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	D,E,F,G
C2612	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3747	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C2613	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3801	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C2614	NDCA1HJ-101W	C CAPACITOR	100pF 50V J		C3802	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C2615	NDCA1HJ-101W	C CAPACITOR	100pF 50V J		C3803	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C3001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3804	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C3003	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3805	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3005	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3806	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3006	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3807	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3007	NCB10JK-106X	C CAPACITOR	10uF 6.3V K		C3808	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3008	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C3809	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	D,E,F,G
C3009	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3810	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3011	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3811	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	D,E,F,G
C3012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3812	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3013	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3813	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3015	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3814	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3016	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3815	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3017	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3816	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3020	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3817	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3021	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3818	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C3022	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3819	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C3023	NDCA1HJ-330W	C CAPACITOR	33pF 50V J		C3851	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3024	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3852	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3025	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3853	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3026	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3854	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3027	NCBA1EK-472W	C CAPACITOR	4700pF 25V K		C3855	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	A,B,C
C3028	NDCA1EJ-271W	C CAPACITOR	270pF 25V J		C3856	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3029	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3857	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	A,B,C
C3030	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3858	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	A,B,C
C3031	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3859	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3032	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3860	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	A,B,C
C3033	NDCA1HJ-220W	C CAPACITOR	22pF 50V J		C3861	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	A,B,C
C3036	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J		C4201	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3037	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J		C4202	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3038	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4203	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C3039	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4204	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3042	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4205	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3043	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4206	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C3044	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4207	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3045	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4208	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3046	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4209	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3047	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4210	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3048	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		C4211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3049	NCBA1HK-222W	C CAPACITOR	2200pF 50V K		C4212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3050	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3055	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3059	NBE20GM-226X	TA E CAPACITOR	22uF 4V M		C4216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3060	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4301	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3064	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C4302	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3066	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C4303	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3067	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C4304	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3069	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4305	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3701	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C4306	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3702	NDCA1HJ-560W	C CAPACITOR	56pF 50V J		C4307	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3703	NDCA1HJ-270W	C CAPACITOR	27pF 50V J		C4308	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3704	NDCA1HJ-680W	C CAPACITOR	68pF 50V J		C4309	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3705	NDCA1HJ-270W	C CAPACITOR	27pF 50V J		C4310	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3706	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C4311	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3707	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4312	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3708	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4313	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3709	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4314	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3712	NEA70GM-337X	E CAPACITOR	330uF 4V M		C4315	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C4316	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C6204	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C4317	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C6301	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4803	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C6303	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C4804	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6304	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C4806	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6401	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4808	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C6403	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4809	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6405	NCB31CK-683X	C CAPACITOR	0.068uF 16V K	
C4810	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C6501	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4811	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C6503	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4812	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6505	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	F
C4813	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6505	NCB21CK-105X	C CAPACITOR	1uF 16V K	A,B,C,D,E,G
C4814	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6601	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4815	NCB31HK-152X	C CAPACITOR	1500pF 50V K		C6602	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4819	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C6603	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C4851	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C6605	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4852	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z		C6606	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4853	NBE21AM-335X	TA E CAPACITOR	3.3uF 10V M		C6607	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C4854	NBE21AM-106X	TA E CAPACITOR	10uF 10V M		C6608	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C4855	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C6609	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4858	NDCA1HJ-330W	C CAPACITOR	33pF 50V J		C6701	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4859	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K		C6703	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4860	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K		C6801	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4861	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C6802	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C4862	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C6804	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4864	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		C6807	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C4865	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C6809	NDCA1HJ-151W	C CAPACITOR	150pF 50V J	
C5501	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
C5503	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8002	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
C5504	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8003	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
C5506	NBE40GM-476X	TA E CAPACITOR	47uF 4V M		C8004	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5507	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8005	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5508	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8006	NBE20JM-476X	TA E CAPACITOR	47uF 6.3V M	D,E,F,G
C5509	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5510	NBP21VM-105X	TA E CAPACITOR	1uF 35V M		C8008	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5511	NBP21DM-475X	TA E CAPACITOR	4.7uF 20V M	F	C8010	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5511	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	A,B,C,D,E,G	C8011	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5512	NBE21AM-106X	TA E CAPACITOR	10uF 10V M		C8014	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5513	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C8015	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5514	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8016	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5515	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8017	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5516	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8018	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5517	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C8019	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5518	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8020	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C5519	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C8021	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
C6002	NCB21CK-105X	C CAPACITOR	1uF 16V K		C8026	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C6003	NEA71CM-106X	E CAPACITOR	10uF 16V M		C8027	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	D,E,F,G
C6004	NCB21CK-105X	C CAPACITOR	1uF 16V K		C8028	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	D,E,F,G
C6021	NCB21CK-104X	C CAPACITOR	0.1uF 16V K		C8029	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
C6022	NCB21CK-104X	C CAPACITOR	0.1uF 16V K		C8030	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	D,E,F,G
C6023	NCB21CK-105X	C CAPACITOR	1uF 16V K						
C6024	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1001	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
C6025	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1002	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6026	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6027	NCBA1EK-472W	C CAPACITOR	4700pF 25V K		R1006	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6029	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		R1007	NRSA6AJ-0R0W	MG RESISTOR	Ω 1/16W J	
C6030	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		R1008	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
C6031	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		R1009	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
C6032	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		R1010	NRSA6AJ-0R0W	MG RESISTOR	Ω 1/16W J	
C6033	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		R1011	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6034	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R1012	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6035	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R1013	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6036	NDCA1HJ-101W	C CAPACITOR	100pF 50V J		R1014	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6037	NCB21CK-473X	C CAPACITOR	0.047uF 16V K		R1015	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6038	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		R1016	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
C6039	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R1017	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J	
C6040	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		R1018	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J	
C6041	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R1019	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6042	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R1020	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6043	NCB31CK-223X	C CAPACITOR	0.022uF 16V K		R1021	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6044	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		R1022	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6045	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1023	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
C6101	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1024	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6103	NCB10JK-106X	C CAPACITOR	10uF 6.3V K		R1025	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
C6104	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		R1027	NRSA6AJ-0R0W	MG RESISTOR	Ω 1/16W J	
C6105	NCBA1HK-561W	C CAPACITOR	560pF 50V K		R1030	NRSA6AJ-753W	MG RESISTOR	75kΩ 1/16W J	
C6106	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1031	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
C6201	NCB21CK-105X	C CAPACITOR	1uF 16V K		R1032	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
C6203	NCB10JK-106X	C CAPACITOR	10uF 6.3V K		R1033	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R1034	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R2204	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R1035	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2206	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R1037	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J		R2207	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R1038	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2208	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1039	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J		R2209	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1040	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2210	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1041	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R2211	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1042	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R2212	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R1043	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2213	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R1044	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2217	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1045	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J		R2218	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1046	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2219	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1047	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2220	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1048	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2221	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1049	NRSA6AJ-623W	MG RESISTOR	62kΩ 1/16W J		R2222	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1050	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R2223	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1051	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R2224	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1052	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2225	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1053	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R2226	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1054	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2229	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1055	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2230	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1056	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2231	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1057	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2401	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1058	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2402	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1059	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2403	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R1060	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2406	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1061	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J		R2407	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1062	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		R2601	NRSA6AJ-182W	MG RESISTOR	1.8kΩ 1/16W J	
R1063	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R2602	NRSA6AJ-182W	MG RESISTOR	1.8kΩ 1/16W J	
R1064	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2607	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1065	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J		R2608	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1066	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2609	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1067	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2610	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1068	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3002	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1069	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3004	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1070	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J		R3005	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1071	NRSA6AJ-272W	MG RESISTOR	2.7kΩ 1/16W J		R3006	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1072	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J		R3007	NRSA6AJ-562W	MG RESISTOR	5.6kΩ 1/16W J	
R1073	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3008	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1074	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R3009	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1075	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R3010	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1076	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R3011	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1077	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3013	NRSA6AJ-242W	MG RESISTOR	2.4kΩ 1/16W J	
R1078	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J		R3014	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R1079	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J		R3015	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R1080	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J		R3016	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1081	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3017	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1082	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J		R3018	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1083	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3019	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1084	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3020	NRVA6AD-512W	CMF RESISTOR	5.1kΩ 1/16W D	
R1085	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3021	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1086	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3025	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1087	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3027	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1088	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3029	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R1089	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3030	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1091	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3031	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1092	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3032	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R1093	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3034	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1094	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3036	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1095	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3037	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R1096	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3057	NRSA6AJ-151W	MG RESISTOR	150Ω 1/16W J	
R1097	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3066	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R1099	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3067	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R2001	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3068	NRSA6AJ-181W	MG RESISTOR	180Ω 1/16W J	
R2002	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3069	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R2003	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3071	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R2004	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3074	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R2005	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3082	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R2006	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3701	NRSA6AD-271W	MG RESISTOR	270Ω 1/16W D	
R2007	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3702	NRSA6AD-271W	MG RESISTOR	270Ω 1/16W D	
R2008	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3703	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R2009	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3704	NRSA6AD-301W	MG RESISTOR	300Ω 1/16W D	
R2010	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3705	NRSA6AD-301W	MG RESISTOR	300Ω 1/16W D	
R2011	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3706	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R2012	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R3707	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R2201	NRSA6AJ-684W	MG RESISTOR	680kΩ 1/16W J		R3708	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R2202	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J		R3709	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R2203	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J		R3710	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R3711	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R4348	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3712	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J		R4349	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3713	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R4350	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3714	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R4351	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3715	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R4352	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3722	NRSA6AD-131W	MG RESISTOR	130Ω 1/16W D		R4353	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3724	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R4354	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3725	NRSA6AD-131W	MG RESISTOR	130Ω 1/16W D		R4355	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3726	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R4356	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3727	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R4804	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3728	NRSA6AD-131W	MG RESISTOR	130Ω 1/16W D		R4805	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3730	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R4806	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R3731	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J D,E,F,G		R4807	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R3732	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J D,E,F,G		R4808	NRSA6AJ-243W	MG RESISTOR	24kΩ 1/16W J	
R3733	NRSA6AD-561W	MG RESISTOR	560Ω 1/16W D D,E,F,G		R4809	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R3734	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J D,E,F,G		R4810	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3735	NRSA6AD-182W	MG RESISTOR	1.8kΩ 1/16W D D,E,F,G		R4811	NRSA6AJ-824W	MG RESISTOR	820kΩ 1/16W J	
R3736	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J D,E,F,G		R4812	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R3737	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J D,E,F,G		R4814	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R3738	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J D,E,F,G		R4815	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3739	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J D,E,F,G		R4816	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R3740	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J D,E,F,G		R4817	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R3741	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J D,E,F,G		R4818	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R3742	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J D,E,F,G		R4819	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3743	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J D,E,F,G		R4820	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3744	NRSA6AD-561W	MG RESISTOR	560Ω 1/16W D D,E,F,G		R4821	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3745	NRSA6AD-152W	MG RESISTOR	1.5kΩ 1/16W D D,E,F,G		R4822	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R3746	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J D,E,F,G		R4823	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3747	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J D,E,F,G		R4824	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3748	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J D,E,F,G		R4825	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J D,E,F,G	
R3801	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J D,E,F,G		R4826	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J D,E,F,G	
R3802	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D D,E,F,G		R4827	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3803	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D D,E,F,G		R4828	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3804	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D D,E,F,G		R4833	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3805	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D D,E,F,G		R4836	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3807	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R4837	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R3851	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J A,B,C		R4839	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R3852	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D A,B,C		R4840	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R3853	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D A,B,C		R4841	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J A,B,C	
R3854	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D A,B,C		R4842	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J A,B,C	
R3855	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D A,B,C		R4843	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4201	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J		R4844	NRSA6AJ-151W	MG RESISTOR	150Ω 1/16W J	
R4202	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4846	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R4203	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4849	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R4204	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R4854	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4205	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R4856	NRSA6AJ-6R8W	MG RESISTOR	6.8Ω 1/16W J	
R4301	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R4857	NRSA6AJ-6R8W	MG RESISTOR	6.8Ω 1/16W J	
R4302	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4858	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R4304	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4859	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4306	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4860	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4307	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J		R4862	NRSA6AJ-6R8W	MG RESISTOR	6.8Ω 1/16W J	
R4308	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J		R4863	NRSA6AJ-6R8W	MG RESISTOR	6.8Ω 1/16W J	
R4309	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4864	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4310	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4865	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4315	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4866	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4317	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4867	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4319	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4868	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4321	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4870	NRSA6AJ-271W	MG RESISTOR	270Ω 1/16W J	
R4326	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J		R4871	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4327	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4874	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4328	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R4875	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4329	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5501	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4330	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5503	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R4331	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5504	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R4332	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5505	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R4333	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5506	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4334	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5507	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4335	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5509	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R4336	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5511	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R4337	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5512	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4338	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R5513	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4339	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R5514	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4341	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R6021	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4342	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R6022	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4343	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R6023	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4344	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R6024	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4345	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R6025	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4346	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R6026	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R6027	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D		R8009	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J D,E,F,G	
R6028	NRSA6AD-751W	MG RESISTOR	750Ω 1/16W D		R8016	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G	
R6029	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D		R8017	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G	
R6030	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J		R8020	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6031	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R8022	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J D,E,F,G	
R6033	NRSA6AJ-562W	MG RESISTOR	5.6kΩ 1/16W J		R8025	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6034	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	F	R8026	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6034	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	A,B,C,D,E,G	R8027	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J D,E,F,G	
R6035	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8028	NRS181J-220X	MG RESISTOR	22Ω 1/8W J D,E,F,G	
R6036	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8029	NRS181J-220X	MG RESISTOR	22Ω 1/8W J D,E,F,G	
R6037	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D		R8030	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J D,E,F,G	
R6038	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8031	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J D,E,F,G	
R6039	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8032	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6040	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R8036	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J D,E,F,G	
R6042	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R8037	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G	
R6044	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		R8038	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6102	NRVA6AD-223W	CMF RESISTOR	22kΩ 1/16W D		R8043	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6103	NRVA6AD-103W	CMF RESISTOR	10kΩ 1/16W D		R8046	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6104	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J		R8051	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6105	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8054	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6106	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R8055	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6107	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D		R8058	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6108	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		R8059	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R6109	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R8060	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6202	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		R8063	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J D,E,F,G	
R6203	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D		R8065	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J D,E,F,G	
R6302	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D		R8066	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J D,E,F,G	
R6303	NRSA6AD-472W	MG RESISTOR	4.7kΩ 1/16W D		R8067	NDCA1HJ-100W	C CAPACITOR	10pF 50V J D,E,F,G	
R6305	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8068	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J D,E,F,G	
R6306	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J		R8071	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6308	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R8074	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J D,E,F,G	
R6309	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R8716	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6402	NRSA6AD-243W	MG RESISTOR	24kΩ 1/16W D		R8717	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G	
R6403	NRSA6AD-302W	MG RESISTOR	3kΩ 1/16W D		RA1001	NRZ0034-473W	NET RESISTOR	47kΩ 1/32W J	
R6405	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J		RA1002	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6406	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		RA1004	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6407	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		RA1005	NRZ0034-103W	NET RESISTOR	10kΩ 1/32W J	
R6502	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		RA1006	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J	
R6503	NRSA6AD-562W	MG RESISTOR	5.6kΩ 1/16W D		RA1007	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J	
R6505	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		RA1008	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6506	NRSA6AJ-273W	MG RESISTOR	27kΩ 1/16W J		RA3001	NRZ0034-560W	NET RESISTOR	56Ω 1/32W J	
R6602	NRSA6AD-114W	MG RESISTOR	110kΩ 1/16W D		RA3002	NRZ0034-560W	NET RESISTOR	56Ω 1/32W J	
R6603	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D		RA3003	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6604	NRSA6AD-114W	MG RESISTOR	110kΩ 1/16W D		RA3004	NRZ0034-103W	NET RESISTOR	10kΩ 1/32W J	
R6605	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		RA3005	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J	
R6606	NRSA6AD-104W	MG RESISTOR	100kΩ 1/16W D		RA8001	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J D,E,F,G	
R6607	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		RA8002	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J D,E,F,G	
R6608	NRSA6AJ-273W	MG RESISTOR	27kΩ 1/16W J		RA8003	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J D,E,F,G	
R6609	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J		RA8004	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J D,E,F,G	
R6610	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		L1001	NQL402M-100X	COIL	10uH M	
R6611	NRSA6AD-683W	MG RESISTOR	68kΩ 1/16W D		L1002	NQL402M-100X	COIL	10uH M	
R6612	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		L2401	NQL402M-100X	COIL	10uH M	
R6613	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		L2402	NQL402M-100X	COIL	10uH M	
R6614	NRSA6AD-104W	MG RESISTOR	100kΩ 1/16W D		L2604	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R6615	NRSA6AD-104W	MG RESISTOR	100kΩ 1/16W D		L3001	NQR0129-002X	FERRITE BEADS		
R6616	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		L3002	NQR0129-002X	FERRITE BEADS		
R6617	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J		L3004	NQR0006-001X	FERRITE BEADS		
R6618	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		L3005	NQR0006-001X	FERRITE BEADS		
R6619	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		L3007	NQL085J-2R2X	COIL	2.2uH J	
R6701	NRZ0058-R20X	MG RESISTOR	0.2Ω 1/2W J		L3008	NQL085J-120X	COIL	12uH J	
R6702	NRSA6AD-114W	MG RESISTOR	110kΩ 1/16W D		L3012	NQR0129-002X	FERRITE BEADS		
R6703	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D		L3014	NQL38DK-100X	P COIL	10uH K	
R6704	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		L3015	NQR0006-001X	FERRITE BEADS		
R6706	NRSA6AD-823W	MG RESISTOR	82kΩ 1/16W D		L3701	NQL38DK-100X	P COIL	10uH K	
R6707	NRSA6AD-333W	MG RESISTOR	33kΩ 1/16W D		L3731	NQL085J-6R8X	COIL	6.8uH J D,E,F,G	
R6801	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		L3732	NQL085J-6R8X	COIL	6.8uH J D,E,F,G	
R6803	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		L3801	NQR0129-002X	FERRITE BEADS		
R6804	NRVA6AD-563W	CMF RESISTOR	56kΩ 1/16W D		L3802	NQR0129-002X	FERRITE BEADS		
△ R6805	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		L3803	NQR0006-001X	FERRITE BEADS		
R6813	NRVA6AD-273W	CMF RESISTOR	27kΩ 1/16W D		L3804	NQL38DK-100X	P COIL	10uH K	
R6815	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J		L4201	NQR0129-002X	FERRITE BEADS		
R8001	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G		L4301	NQR0129-002X	FERRITE BEADS		
R8002	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G		L4302	NQR0129-002X	FERRITE BEADS		
R8003	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J D,E,F,G		L4802	NQL302N-100X	COIL	10uH N	
R8004	NQL402M-100X	COIL	10uH M D,E,F,G		L4851	NQR0129-002X	FERRITE BEADS		
R8005	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J D,E,F,G		L4852	NQL315K-100X	COIL	10uH K	
R8006	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J D,E,F,G		L4853	NQL315K-100X	COIL	10uH K	
R8007	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J D,E,F,G						

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
L5501	NQL315K-100X	COIL	10uH K		Q7604	or 2SA1832/YG/-X	TRANSISTOR		
L5502	NQR0129-002X	FERRITE BEADS			Q7604	or BC857BT-X	TRANSISTOR		
L5503	NQR0129-002X	FERRITE BEADS			Q7608	DTC144EE-X	DIGI TRANSISTOR		
L5504	NQR0129-002X	FERRITE BEADS			Q7608	or UN9213J-X	DIGI TRANSISTOR		
L5505	NQL315K-100X	COIL	10uH K		Q7608	or RN1104-X	DIGI TRANSISTOR		
L5506	NQL315K-100X	COIL	10uH K		Q7608	or BCR148T-X	DIGI TRANSISTOR		
L6001	NQLZ011-4R7X	COIL	4.7uH N		Q7609	or BC847BT-X	TRANSISTOR		E
L6002	NQLZ011-4R7X	COIL	4.7uH N		Q7609	DTC144EE-X	DIGI TRANSISTOR		
L6101	NQL52EM-390X	COIL	39uH M		Q7609	or UN9213J-X	DIGI TRANSISTOR		
L6201	NQL52EM-390X	COIL	39uH M		Q7609	or RN1104-X	DIGI TRANSISTOR		
L6301	NQL52EM-390X	COIL	39uH M		Q7610	DTA114EE-X	DIGI TRANSISTOR		
L6302	NQL144K-220X	P COIL	22uH K		Q7610	or BCR183T-X	DIGI TRANSISTOR		
L6401	NQL52EM-470X	COIL	47uH M		Q7611	DTC144EE-X	DIGI TRANSISTOR		
L6501	NQL52EM-470X	COIL	47uH M		Q7611	or UN9213J-X	DIGI TRANSISTOR		
L6601	NQL52EM-221X	COIL	220uH M		Q7611	or RN1104-X	DIGI TRANSISTOR		
L6701	NQL73EM-100X	COIL	10uH M		Q7611	or BCR148T-X	DIGI TRANSISTOR		
L6801	NQL034K-470X	P COIL	47uH K		Q7612	DTA144EE-X	DIGI TRANSISTOR		
L8001	NQR0129-002X	FERRITE BEADS		D,E,F,G	Q7612	or UN9113J-X	DIGI TRANSISTOR		
L8002	NQR0129-002X	FERRITE BEADS		D,E,F,G	Q7612	or RN2104-X	DIGI TRANSISTOR		
L8003	NQR0129-002X	FERRITE BEADS		D,E,F,G	Q7612	or BCR198T-X	DIGI TRANSISTOR		
L8004	NQR0129-002X	FERRITE BEADS		D,E,F,G					
L8005	NQR0129-002X	FERRITE BEADS		D,E,F,G	D11	RSA6.1J4-W	SI DIODE		D,E,F,G
					D7602	1SS355-X	SI DIODE		
CN101	QGF0528F1-40X	CONNECTOR	FFC/FPC (1-40)		C1	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
CN102	QGF0505F1-22X	CONNECTOR	FFC/FPC (1-22)		C10	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
CN103	QGF0507F3-10X	CONNECTOR	FFC/FPC (1-10)	D,E,F,G	C11	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	D,E,F,G
CN104	QGA1002C1-11X	CONNECTOR	W-B (1-11)		C7601	NCB21CK-105X	C CAPACITOR	1uF 16V K	
CN105	QGB0509M1-30X	CONNECTOR	B-B (1-30)		C7602	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
CN106	QGA1201C2-05X	CONNECTOR	W-B (1-5)		C7603	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
CN107	QGF0503C1-20X	CONNECTOR	FFC/FPC (1-20)		C7604	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
CN108	QGF0503C1-24V	CONNECTOR	FFC/FPC (1-24)		C7605	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
CN109	QGF0503F1-16X	CONNECTOR	FFC/FPC (1-16)		C7606	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
CN110	QGF0528F1-40X	CONNECTOR	FFC/FPC (1-40)		C7607	NCB41CK-106X	C CAPACITOR	10uF 16V K	
CN111	QGF0528F1-40X	CONNECTOR	FFC/FPC (1-40)		C7608	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
△ F6001	NMFZ007-2R0X-K	FUSE	2A 32V		C7609	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
△ F6301	NMFZ007-1R25X-K	FUSE	1.25A 32V		C7613	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
△ F6701	NMFZ007-1R25X-K	FUSE	1.25A 32V		C7614	NCB31HK-152X	C CAPACITOR	1500pF 50V K	
△ F6801	NMFZ007-R50X-K	FUSE	0.5A 50V		C7615	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
J501	NNZ0041-001X	D CONNECTOR	IEEE1394(4pin)		C7616	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
J502	QNZ0616-001	USB CONNECTOR		D,E,F,G	C7617	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
X1001	NAX0578-001X	CRYSTAL			C7618	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
X1002	NAX0564-001X	CRYSTAL			C7619	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
X3002	NAX0480-001X	CRYSTAL	24.576MHz		C7620	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
X5501	NAX0587-001X	CXO			C7621	NCB21CK-105X	C CAPACITOR	1uF 16V K	
X8002	NAX0398-001X	C OSCILLATOR		D,E,F,G	C7622	NCB21CK-105X	C CAPACITOR	1uF 16V K	
OT1	LY30030-069A	SPACER(A)		A,B,C	C7623	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
OT1	LY30030-071A	SPACER(A)		D,E,F,G	C7624	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
OT2	LY44158-001A	SHEET(SHIELD)			C7626	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
WR1	QAL0474-001	FPC	MAIN-PREMDA	CN401	C7627	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
WR2	QAL0474-001	FPC	MAIN-PREMDA	CN408	C7628	NBP41EM-475X	TA E CAPACITOR	4.7uF 25V M	
					C7629	NBP21CM-335X	TA E CAPACITOR	3.3uF 16V M	
					C7630	NBP41EM-475X	TA E CAPACITOR	4.7uF 25V M	
					C7631	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7632	NBP41EM-475X	TA E CAPACITOR	4.7uF 25V M	
					C7633	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7634	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
					C7635	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7637	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7646	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7647	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
					C7651	NCB11CK-225X	C CAPACITOR	2.2uF 16V K	
					C7661	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
					C7662	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
					C7663	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
					C7664	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
					C7665	NBP41CM-226X	TA E CAPACITOR	22uF 16V M	
					C7666	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
					R3	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
					R4	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
					R5	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
					R6	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
					R7	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
					R8	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
					R18	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	D,E,F,G
					R19	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	D,E,F,G
					R21	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	D,E,F,G
MONI-BW BOARD ASSEMBLY <02>									
△ Symbol No.	Part No.	Part Name	Description	Local					
PW1	YB10402A-01	MONI-BW BOARD ASSY		A,B					
PW1	YB10402B-01	MONI-BW BOARD ASSY		D					
PW1	YB10402C-01	MONI-BW BOARD ASSY		E,F,G					
PW1	YB10402D-01	MONI-BW BOARD ASSY		C					
IC7601	AN12550A	IC							
IC7602	BA4558F-X	IC							
Q7601	2SC4617/QR/-X	TRANSISTOR							
Q7601	or 2SC4738/YG/-X	TRANSISTOR							
Q7601	or 2SD2216J/QR/-X	TRANSISTOR							
Q7601	or BC847BT-X	TRANSISTOR							
Q7602	2SA1774/QR/-X	TRANSISTOR							
Q7602	or 2SA1832/YG/-X	TRANSISTOR							
Q7602	or BC857BT-X	TRANSISTOR							
Q7603	2SC4617/QR/-X	TRANSISTOR							
Q7603	or 2SC4738/YG/-X	TRANSISTOR							
Q7603	or 2SD2216J/QR/-X	TRANSISTOR							
Q7603	or BC847BT-X	TRANSISTOR							
Q7604	2SA1774/QR/-X	TRANSISTOR							

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

Symbol No.	Part No.	Part Name	Description	Local
R22	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	D,E,F,G
R23	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	D,E,F,G
R25	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	D,E,F,G
R7601	NRVA63D-622X	CMF RESISTOR	6.2kΩ 1/16W D	
R7602	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R7603	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	A,B,D
R7608	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R7609	NRVA63D-223X	CMF RESISTOR	22kΩ 1/16W D	
R7610	NRVA63D-433X	CMF RESISTOR	43kΩ 1/16W D	
R7611	NRVA63D-821X	CMF RESISTOR	820Ω 1/16W D	
R7612	NRVA63D-223X	CMF RESISTOR	22kΩ 1/16W D	
R7613	NRVA63D-223X	CMF RESISTOR	22kΩ 1/16W D	
R7614	NRVA63D-223X	CMF RESISTOR	22kΩ 1/16W D	
R7615	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R7616	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R7617	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R7618	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R7619	NRVA63D-153X	CMF RESISTOR	15kΩ 1/16W D	C,E,F,G
R7620	NRSA63J-335X	MG RESISTOR	3.3MΩ 1/16W J	
R7621	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7630	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R7634	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7636	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7637	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7638	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7639	NRVA63D-183X	CMF RESISTOR	18kΩ 1/16W D	C,E,F,G
R7661	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7662	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7663	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7666	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R7667	NRVA63D-273X	CMF RESISTOR	27kΩ 1/16W D	
R7668	NRVA63D-273X	CMF RESISTOR	27kΩ 1/16W D	
R7669	NRVA63D-392X	CMF RESISTOR	3.9kΩ 1/16W D	

L10	NQR0129-002X	FERRITE BEADS		D,E,F,G
L7601	NQL365K-100X	COIL	10uH K	
L7602	NQL365K-470X	COIL	47uH K	
L7603	NQL365K-470X	COIL	47uH K	
L7604	NQL365K-100X	COIL	10uH K	
L7605	NQL365K-100X	COIL	10uH K	
L7607	NQL365K-100X	COIL	10uH K	

CN761	QGF0508F1-40X	CONNECTOR	FFC/FPC (1-40)	
CN762	QGF0508F1-10X	CONNECTOR	FFC/FPC (1-10)	D,E,F,G
CN763	QGF0507F3-20X	CONNECTOR	FFC/FPC (1-20)	A,B,D
CN764	QGF0503C1-20X	CONNECTOR	FFC/FPC (1-20)	C,E,F,G
CN765	QGF0506F2-32X	CONNECTOR	FFC/FPC (1-32)	
CN766	NNZ0058-001X	SD CARD CONNECTOR		D,E,F,G
SW2	NSW0145-001X	TACT SWITCH STOP		
SW3	NSW0145-001X	TACT SWITCH REW		
SW4	NSW0145-001X	TACT SWITCH FF		
SW5	NSW0145-001X	TACT SWITCH PLAY/PAUSE		
SW6	NSW0099-001X	SLIDE SWITCH DSC/VIDEO		D,E,F,G
SW7	NSW0145-001X	TACT SWITCH INDEX		
SW8	NSW0145-001X	TACT SWITCH SELECT		
SW7601	NSW0200-001X	LEVER SWITCH MONI SW		A,B,D
SW7602	NSW0200-001X	LEVER SWITCH MONI SW		C,E,F,G

BL-2.5/BL-3.5 BOARD ASSEMBLY <03>

Symbol No.	Part No.	Part Name	Description	Local
PW1	YB20938A	BL-2.5 BOARD ASSY		A,B,D
PW1	YB20939A	BL-3.5 BOARD ASSY		C,E,F,G
IC7604	DN8797MS-X	IC		
Q7501	2SD1664/QR/-W	TRANSISTOR		
Q7502	2SD1664/QR/-W	TRANSISTOR		
Q7503	DTA144EE-X	DIGI TRANSISTOR		
Q7503	or UN9113J-X	DIGI TRANSISTOR		
Q7503	or RN2104-X	DIGI TRANSISTOR		
Q7503	or BCR198T-X	DIGI TRANSISTOR		
Q7504	DTC144EE-X	DIGI TRANSISTOR		
Q7504	or UN9213J-X	DIGI TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
Q7504	or RN1104-X	DIGI TRANSISTOR		
Q7504	or BCR148T-X	DIGI TRANSISTOR		
C7501	NCZ1016-120X	C CAPACITOR	12pF 2kV J	
C7502	NCB21EK-273X	C CAPACITOR	0.027uF 25V K	
C7503	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7504	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
R7501	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7502	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7503	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7504	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7511	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7512	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7513	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	

L7501	NQLZ010-680X	COIL	68uH M	
△ T7501	NQS0056-001X	SW TARN SF		
CN7601	QGF0507F3-16X	CONNECTOR	FFC/FPC (1-16)	
CN7602	QGF0507F3-16X	CONNECTOR	FFC/FPC (1-16)	
CN7603	QGF0508F1-24X	CONNECTOR	FFC/FPC (1-24)	
△ F7501	NMF2007-R40X-K	FUSE	0.4A 50V	
WR1	QAL0464-001	FPC		

CCD BOARD ASSEMBLY <04>

Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10406A-01-SS	CCD BOARD ASSY		E,F,G
PW1	YB10406B-01-SS	CCD BOARD ASSY		C
PW1	YB20942A-SS	CCD BOARD ASSY		A,B
PW1	YB20942B-SS	CCD BOARD ASSY		D
Q5001	2SC3931/CD/-X	TRANSISTOR		
Q5002	2SC4081/QR/-X	TRANSISTOR		D,E,F,G
Q5002	or BC847BW-X	TRANSISTOR		D,E,G
C5001	NBP41DM-475X	TA E CAPACITOR	4.7uF 20V M	F
C5001	NBP41EM-475X	TA E CAPACITOR	4.7uF 25V M	A,B,C,D,E,G
C5002	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5003	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C5004	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5005	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5006	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5007	NCB31EK-222X	C CAPACITOR	2200pF 25V K	

R5001	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R5002	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R5005	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	D
R5005	NRS181J-472X	MG RESISTOR	4.7kΩ 1/8W J	E,F,G
L5001	NQL315K-100X	COIL	10uH K	A,B,D
L5001	NQL144K-100X	P COIL	10uH K	C,E,F,G
L5002	NQL315K-100X	COIL	10uH K	

CN5001	QGF0517F2-20X	CONNECTOR	FFC/FPC (1-20)	A,B,D
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PREMDA BOARD ASSEMBLY <05>

Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10405A-01	PREMDA BOARD ASSY		
IC1601	BD6637KS	IC		
IC1701	LM358DMR2-X	IC		
IC1702	LM393DMR2-X	IC		
IC3501	JCY0132	IC		
IC3502	SN74AHC1G04K-X	IC		
Q1601	UMC3N-W	DIGI TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
D1602	DAP222-X	DIODE ARRAY			R1629	NRSA63J-564X	MG RESISTOR	560kΩ 1/16W J	
D1602	or MA132WA-X	SI DIODE			R1630	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
D1603	DAP222-X	DIODE ARRAY			R1631	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
D1603	or MA132WA-X	SI DIODE			R1635	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
D1604	DAP222-X	DIODE ARRAY			R1636	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
D1604	or MA132WA-X	SI DIODE			R1637	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J	
					R1638	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1601	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R1639	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1602	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		R1640	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1603	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		R1641	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1605	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R1642	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1606	NCB31HK-152X	C CAPACITOR	1500pF 50V K		R1648	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1607	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		R1701	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
C1614	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		R1702	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C1618	NCB31HK-222X	C CAPACITOR	2200pF 50V K		R1703	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C1619	NCB31HK-222X	C CAPACITOR	2200pF 50V K		R1704	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C1620	NCB31HK-222X	C CAPACITOR	2200pF 50V K		R1705	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C1621	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		R1706	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
C1622	NCB31CK-223X	C CAPACITOR	0.022uF 16V K		R1707	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C1623	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		R1708	NRSA63J-124X	MG RESISTOR	120kΩ 1/16W J	
C1624	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R1709	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C1625	NCS31HJ-101X	C CAPACITOR	100pF 50V J		R1710	NRSA63J-124X	MG RESISTOR	120kΩ 1/16W J	
C1626	NCB31HK-822X	C CAPACITOR	8200pF 50V K		R1711	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C1627	NCB31HK-822X	C CAPACITOR	8200pF 50V K		R1712	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C1628	NCB21CK-224X	C CAPACITOR	0.22uF 16V K		R3501	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
C1629	NBP41DM-106X	TA E CAPACITOR	10uF 20V M		R3502	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
C1630	NCB21CK-334X	C CAPACITOR	0.33uF 16V K		R3503	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C1632	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		R3504	NRSA63D-241X	MG RESISTOR	240Ω 1/16W D	
C1633	NCB21CK-474X	C CAPACITOR	0.47uF 16V K		R3505	NRSA63D-241X	MG RESISTOR	240Ω 1/16W D	
C1641	NCB21CK-474X	C CAPACITOR	0.47uF 16V K		R3506	NRSA63D-241X	MG RESISTOR	240Ω 1/16W D	
C1701	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R3507	NRSA63D-241X	MG RESISTOR	240Ω 1/16W D	
C1702	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R3508	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C3501	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		R3511	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
C3502	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M						
C3503	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M		L3501	NQR0006-001X	FERRITE BEADS		
C3504	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		L3502	NQL402M-100X	COIL	10uH M	
C3505	NCB31CK-223X	C CAPACITOR	0.022uF 16V K		L3503	NQR0006-001X	FERRITE BEADS		
C3506	NCB21AK-105X	C CAPACITOR	1uF 10V K		L3504	NQR0006-001X	FERRITE BEADS		
C3507	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		L3505	NQR0006-001X	FERRITE BEADS		
C3508	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		CN401	QGF0528F1-40X	CONNECTOR	FFC/FPC (1-40)	
C3509	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		CN402	QGF0517F1-08X	CONNECTOR	FFC/FPC (1-8)	
C3510	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		CN403	QGF0505F2-06X	CONNECTOR	FFC/FPC (1-6)	
C3511	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		CN404	QGF0507F3-11X	CONNECTOR	FFC/FPC (1-11)	
C3512	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		CN405	QGF0507F3-18X	CONNECTOR	FFC/FPC (1-18)	
C3513	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		CN406	QGF0503F4-16X	CONNECTOR	FFC/FPC (1-16)	
C3514	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		CN407	QGF0508F1-06X	CONNECTOR	FFC/FPC (1-6)	
C3515	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		CN408	QGF0528F1-40X	CONNECTOR	FFC/FPC (1-40)	
C3516	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		△ F1601	NMFZ007-R20X-K	FUSE	0.2A 50V	
C3517	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		△ F1602	NMFZ007-R50X-K	FUSE	0.5A 50V	
C3518	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		OT1	LY33021-001A	S.COVER(P/R)		
C3519	NCB31HK-102X	C CAPACITOR	1000pF 50V K						
C3520	NCB31EK-103X	C CAPACITOR	0.01uF 25V K						
C3521	NCB31CK-104X	C CAPACITOR	0.1uF 16V K						
C3522	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M						
C3523	NCB31EK-103X	C CAPACITOR	0.01uF 25V K						
C3524	NCB31EK-103X	C CAPACITOR	0.01uF 25V K						
C3525	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M						
C3526	NCB31EK-103X	C CAPACITOR	0.01uF 25V K						
C3527	NDC31HJ-221X	C CAPACITOR	220pF 50V J						
C3528	NCB31EK-103X	C CAPACITOR	0.01uF 25V K						
R1601	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J		IC501	BA10358F-XE	IC		
R1602	NRSA63J-124X	MG RESISTOR	120kΩ 1/16W J		IC502	RPM7138-V4	IR DETECT UNIT		
R1603	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J						
R1604	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J		Q501	RPM-22PB	PHOTO TRANSISTOR		
R1610	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J						
R1611	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		D501	SML-010LT-X	LED		
R1612	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J		D503	MA8068-X	Z DIODE		
R1613	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		D506	MA8068-X	Z DIODE		
R1614	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F		D507	EMZ6.8N-X	Z DIODE		G
R1616	NRSA63D-332X	MG RESISTOR	3.3kΩ 1/16W D						
R1617	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F		C501	NBE21AM-335X	TA E CAPACITOR	3.3uF 10V M	
R1620	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		C502	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
R1621	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		C503	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
R1622	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		C504	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
R1624	NRSA63D-183X	MG RESISTOR	18kΩ 1/16W D		C506	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
R1625	NRSA63D-361X	MG RESISTOR	360Ω 1/16W D		C509	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	

MODEL	MARK	MODEL	MARK
GR-D30UB	A	GR-D90UB	E
GR-D30US	B	GR-D90US	F
GR-D31US	C	GR-D91US	G
GR-D70US	D		

△ Symbol No.	Part No.	Part Name	Description	Local
C512	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C513	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
R501	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R502	NRSA63J-684X	MG RESISTOR	680kΩ 1/16W J	
R503	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R504	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R505	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R506	NRSA63J-824X	MG RESISTOR	820kΩ 1/16W J	
R507	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R508	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	
R509	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R510	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R511	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	
R512	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R513	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R514	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R515	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R516	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R517	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R518	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R519	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R520	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R521	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R522	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	G
R523	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	G
L501	NQR0251-004X	FERRITE BEADS		
L502	NQR0251-004X	FERRITE BEADS		
L503	NQR0251-004X	FERRITE BEADS		
CN501	QGF0503C1-22X	CONNECTOR	FFC/FPC (1-22)	
J501	QNS0078-001	3.5 JACK		
J502	QND0004-001	S JACK		
J503	PEMC1203	MINI JACK		G
SW501	NSW0122-001X	DETECT SWITCH EJECT SW		

B/W-VF BOARD ASSEMBLY <07>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB20940A	B/W-VF BOARD ASSY		
Q7001	PUMX1-W	PAIR TRANSISTOR		
Q7001	or BC847S-X	PAIR TRANSISTOR		
D7001	E1S35AW0C501-X	LED		
C7001	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7002	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7004	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R7001	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R7002	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R7003	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R7004	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
CN7001	QGF0532F1-18X	CONNECTOR	FFC/FPC (1-18)	
CN7002	QGF0507F3-20X	CONNECTOR	FFC/FPC (1-20)	